

GUARANTEED BUILDING PLANS

with

Interior Views and Details




by Wm. A. Radford

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Guaranteed Building Plans

With Interior Views and Details

A Standard Collection of

NEW, ORIGINAL AND ARTISTIC DESIGNS OF COTTAGES, BUNGALOWS,
RESIDENCES, AND FLATS OF FRAME, BRICK, CEMENT PLASTER,
CONCRETE BLOCKS, HOLLOW TILE, STUCCO, ETC., AND
FARM BUILDINGS OF ALL DESCRIPTIONS, TO-
GETHER WITH INTERIOR AND EXTERIOR
DETAILS AND INTERIOR VIEWS

Arranged and Described by

WILLIAM A. RADFORD

President of the Radford Architectural Company, Editor-in-Chief of the American Carpenter and Builder and Cement World and Author of Radford's Cyclopedia of Construction (12 volumes), Cyclopedia of Cement Construction (five volumes), "Steel Square and Its Uses," "Practical Carpentry," "Architectural and Mechanical Drawing," "Estimating and Contracting," "Details of Building Construction," "Artistic Homes," "Bungalows," "Cement and How to Use It," "Brick Houses and How to Build Them," "Cement Houses and How to Build Them," etc., etc.

Every Plan Designed and Executed by a Corps of

LICENSED ARCHITECTS OF THE HIGHEST PROFESSIONAL STANDING,
ASSISTED BY A STAFF OF EXPERT DRAFTSMEN

**150 House Plans—50 Farm Building Plans—Details of Construction,
Interior Views—Helpful Information for Builders.**

THE RADFORD ARCHITECTURAL COMPANY

1827-1833 Prairie Avenue, Chicago, Ill.

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INTRODUCTION

THIS BOOK has been written and illustrated to assist and guide in the selection of a suitable plan for every kind of residence and farm building. The perspective views and floor plans presented have been selected with great care and a wide variety of designs offer suggestions for every taste.

A new departure in plan books is shown by the details of construction published in connection with many of the homes and farm buildings, which give proper measurements, show methods of arriving at desired results and will be of great assistance to carpenters, builders, lumbermen, architects and home builders. A number of interior views are presented, picturing correct furnishings and decorative effects, with the idea of showing just how the completed structure will look on the inside as well as the outside.

A great variety of useful information is likewise included to help the readers of this book. The purpose is to render assistance to builders in every way possible. "How" and "Why" and "When" are questions that constantly come up in the building world and many pages of information are given in this book that will help to make clear in a practical way the correct answers.

Every plan presented, every detail shown, has been worked out and given a thorough test. As indicated by the title of this Book every building plan is *guaranteed* by a licensed architect. Freaky, costly ideas that mean needless expense have been excluded.

A man who builds for himself or for others is under a moral obligation to the community. In building, as in all other things in which men engage, the purpose should be improvement or betterment. No man has a right to build a house or other structure which will be unworthy of the community in which he lives, or which by its utter lack of style will tend to depreciate the value of surrounding property.

It is hardly necessary to say that no more foolish thing is ever done by a man than to try to build without plans or from rough pencil sketches. He wastes materials, he wastes the time of his workmen, he wastes nervous energy over mistakes, and in the end he is dissatisfied with his own work, which stands as a monument to his folly.

The perspective views and floor plans of over 200 moderate-priced, modern buildings are illustrated in this book. In drawing the plans great care has been used to provide for the most economical construction, giving the home builder and contractor the benefit of the saving of many dollars. In no case has any useless expense been put upon the building to carry out some pet idea.

The prices shown under each design are as low as plans drawn by licensed architects can be produced. In many instances they are only one-tenth the price usually charged by professional architects who have had only a very limited experience; because we design and sell thousands of plans a year in every section of the world, and base our prices solely upon a manufacturing cost, the great bulk of our business being spread out so that the purchaser of one set of plans does not have to bear the expense of the limited output of the average architect.

The plans we send out are the regular blue-printed plans, drawn one-quarter inch scale to the foot, showing all the elevations, floor plans and necessary interior details. All of our plans are printed by electricity on an electric blue-printing machine, and are as fine and clear and distinct in every line and figure as any blue-printed plans can be made.

The Foundation and Cellar Plans show the shape and size of all the walls, piers, footings, posts, etc., and of what materials they are constructed; show the location of all windows, doors, chimneys, ashpits, partitions, and the like. The different wall sections are given, showing their construction and measurements from all the different points.

The Floor Plans show the shape and size of all rooms, halls and closets; the location and size of all doors and windows; the position of all plumbing fixtures, gas lights, registers, pantry work, etc., and all the necessary measurements are given.

A front, right, left and rear elevation are furnished with all the plans. These drawings are complete and accurate in every respect. They show the size, shape and location of all doors, windows, porches, cornices, towers, bays, etc.; in fact, give an exact scale picture of the house as it should be at completion. Full wall sections are also given, showing the construction from foundation to roof, the height of stories between the joists, height of plates, pitch of roof, etc.

A Roof Plan is furnished where the roof construction is at all intricate. It shows the location of all hips, valleys, ridges, decks, etc.

All necessary details of the interior work, such as door and window casings and trim, base, stools, picture molding, doors, newel posts, balusters, rails, built-in fireplaces, book-cases, buffets, etc., accompany each set of plans.

The specifications are typewritten on high-grade bond paper, consisting of twenty-two pages of typewritten matter, giving full instructions for carrying out the work. All necessary directions are given in the clearest manner, avoiding any possibility of a misunderstanding.

Our Guarantee.—We Guarantee that every one of the plans illustrated in this book is absolutely correct. In ordering them our customers run no risk whatever. If, upon receipt of the plans, they are not exactly as represented, if they are not complete and accurate in every respect, if they are not as well prepared as those furnished by any architect in the country, we will refund all money paid for them immediately upon return of the plans to us in good condition.

This Book has no "Estimates of Cost." It is plainly impossible to set a price on any house or building that will hold good in every section of the country. A builder can show these plans to a customer without being embarrassed by having to meet a figure that is higher or lower than the same house or farm building could be built for in his locality. There isn't anybody that knows better what a house can be built for in any locality than the builder in that locality. The dimensions are shown so plainly that he can figure out the cost for himself, taking into consideration local labor prices and material costs.



GUARANTEED BUILDING PLANS

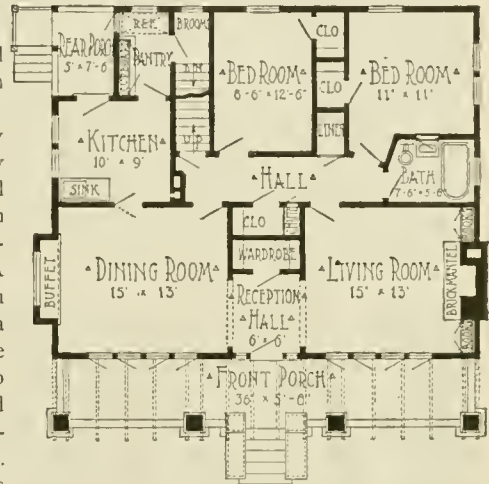


A Jewel of a Bungalow

The convenience of the room arrangement in the design shown here is one of its special features. The entrance is into a reception hall, which opens into the dining room on one side and the living room on the other through cased openings. The hall in the middle part of the house furnishes the key to the convenience of getting from one room to another. This hall opens into every room except the kitchen, and makes it very easy to get around from room to room. There is an ample basement in this design and also the attic is available for storage.

The attic stairs open into the hall mentioned, and the cellar stairs open from the kitchen.

The appearance of this bungalow from the outside is particularly pleasing. The sides are shingled and can be finished in dark brown while the trim is white. This presents a very pleasant contrast. A gable is built out over the porch near the front door with a pergola on each side. The pillars of the porch are made of cobblestones up to the top of the porch railing and above this they are shingled in harmony with the sides of the house. The effect of this porch with its trimmings of white is very artistic.



Floor Plan, Size 38 ft. by 31 ft. 6 in.



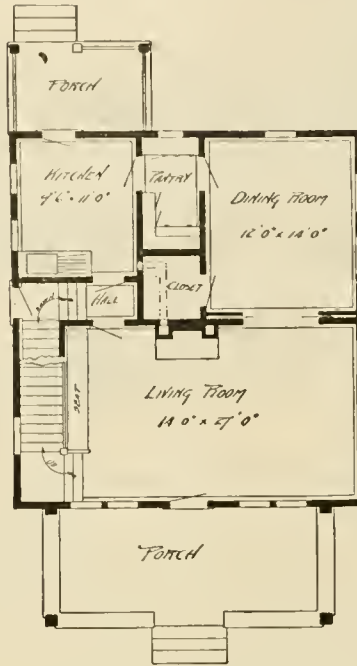
Artistic Bungalow of five rooms, 38 by 31 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6681 H.

Trim, Five-Room, Story-and-a-Half Cottage

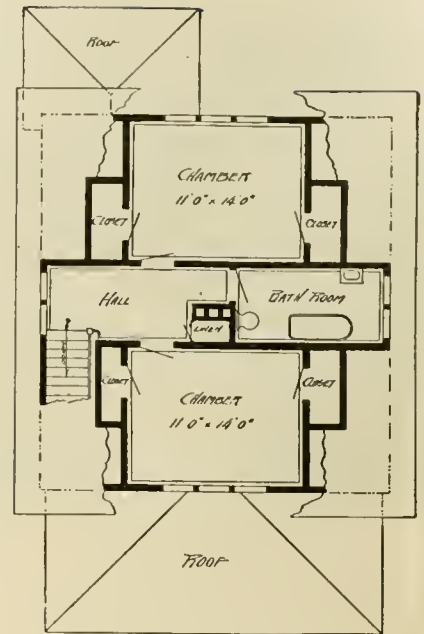
Neatly designed, trim, snug, and home-like is our ideal for the little dwelling that is to prove most popular these days. Start to put up a cottage like this one illustrated and it will be sold or rented before you get the roof on.

The majority of people can't afford to live in a great big place; it costs too much for fuel and lights and furniture. Also it is too much work to take care of. The housewife prefers just a few rooms she can look after herself instead of having to have help.

This is a frame building and has ornamental stucco panels in the gables. The first floor has extra large living room with connecting dining room. Kitchen is handy to the dining room as well as to the front of the house. Side door is a grade entrance onto the cellar stairway landing. On the second floor are two large, well-lighted bedrooms, four clothes closets and large bathroom.



First Floor Plan.



Second Floor Plan.

Arrangement of Five-Room Cottage. Size 27 by 28 Feet.



Five-room story-and-a-half cottage. Size, 27 by 28 feet. A very neat little home. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6546 H.



Seven-room bungalow. Size, 33 by 47 feet. Siding is of wide boards; foundation courses and porch pillars brick. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. Ask for Design No. 6541 H.

Seven-Room Brick and Wide-Boarded Bungalow

Here is a very home-like dwelling of the western bungalow type. The foundation courses up to the window sills are of brick; above, wide resawed boards are used. These are laid about 8 inches to the weather and have a rough surface which takes a stain, brown or dark green, very nicely, producing a rich, warm appearance.

The trim around doors and windows and around the cornice is stained or painted in a color contrasting with the rest of the house. There is a chance for a very artistic effect in this bungalow by properly choosing the colors for brick work, siding, and roof.

The interior of this bungalow is typical of the best modern arrangement. The living room is large, 14 by 19 feet, and connects freely with the dining room through a broad colonnade opening. The dining room measures 15 by 17 feet. Both of these apartments are elegantly finished with ceiling beams, arranged in an ornamental way.

The kitchen is well placed and is just the right size for easy housekeeping. The pantry has a place for built-in refrigerator, to be iced from the porch. The cellar stairs, down to the fruit and vegetable cellar, open handily from the kitchen.

This design is popular because of the fine down-stairs bedroom from which

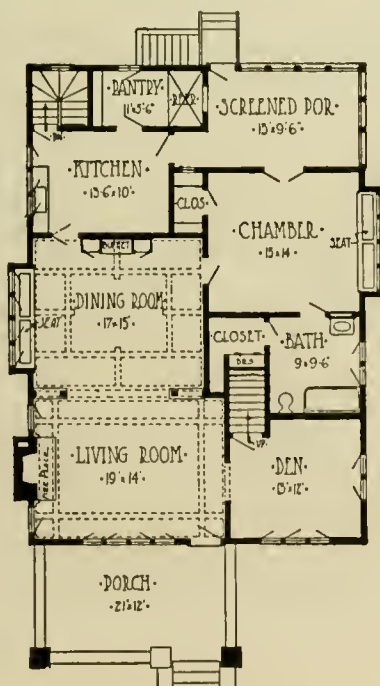
opens the screened porch. One who has ever slept in a screened porch room will never be satisfied with any other.

The bathroom opens from the down-stairs bedroom, and is of generous size. Note the two large closets on this floor.

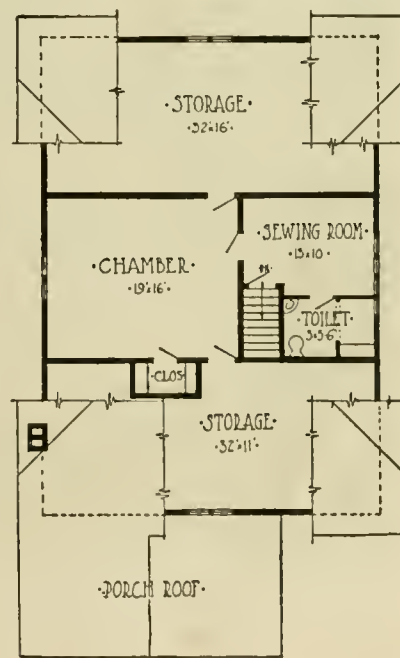
Opening from the living room is a comfortable den or library 12 by 13 feet. The stairway goes up from here.

On the second floor are one large bedroom, a smaller room, designated "sewing room," toilet, and two large storage rooms.

An exceptional amount of good, usable living space is secured in this dwelling for a bungalow of its dimensions. For a building lot of 40 feet or more, nothing could be better.



First Floor Plan.



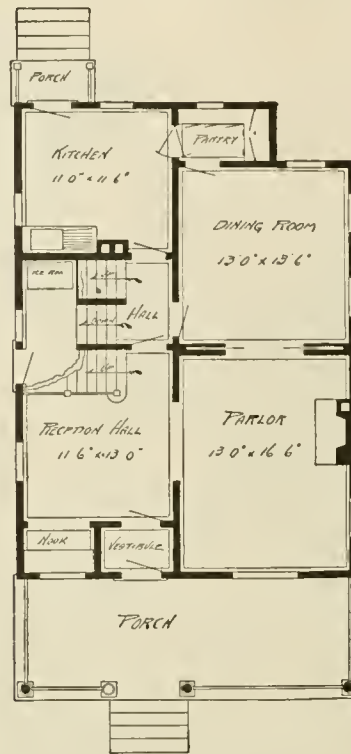
Second Floor Plan.

Sensible Hip Roof Residence

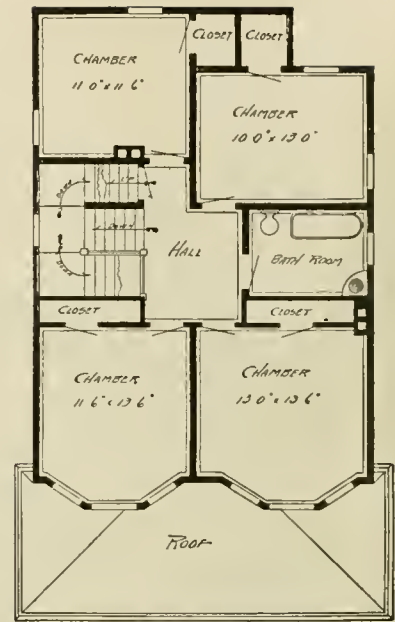
The man who wants a good home and wishes to get the full worth of his money picks out a straightforward house plan like this one, without towers and angles or cut-up fancy work that runs up the cost. He gets a stylish looking, attractive residence, too.

This is an eight-room house with four good sized bedrooms and a bathroom on the second floor. Some space in the attic could also be utilized. The rooms are laid out conveniently. There are front and back stairs coming together at the landing. The side door is a grade entrance opening onto the cellar stairs.

The kitchen is handy to the dining room and to the front door, yet is well insulated from the rest of the house in order to confine the cooking odors and to keep the kitchen noises from annoying the rest of the household. The reception hall is of generous size and can be made very hospitable. It connects with the parlor through a broad cased opening. This and the dining room are large rooms.



First Floor Plan.



Second Floor Plan.

Arrangement of Economical Eight-Room House. Size 26 by 36 Feet 6 Inches.



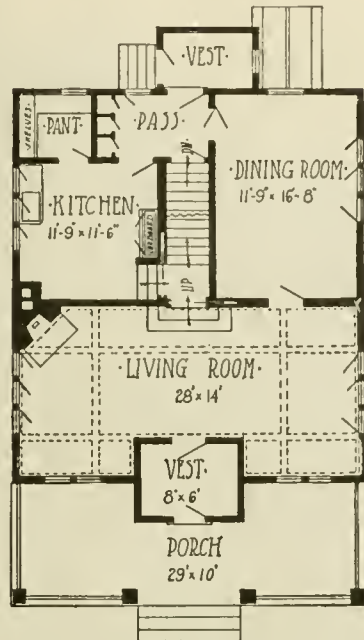
A very economical house to build. Eight-room, frame construction, hip-roof design. Size, 26 by 36 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6554 H.

A Seven-Room Gambrel Roof Residence

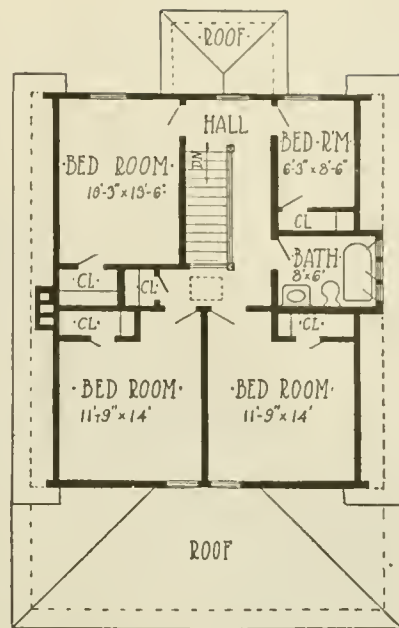
A well designed little home structure that gives a big value for its cost is the seven-room gambrel roof frame dwelling illustrated. A paneling effect has been worked out for the sides of this house that gives it a rather unusual appearance. Little touches of this kind can, of course, be used or omitted, just as the builder prefers. When handled neatly, they often add considerable to the attractiveness of a building. In this instance, the paneling harmonizes very well with the style of porch column used.

The gambrel roof continues a popular style for medium-sized homes. It makes a good appearance when the two slopes to the roof are properly proportioned, and while allowing full use of the upstairs, does away with the expense of the third-story attic.

This house is 29 feet wide by 32 feet deep. A 10-foot porch extends clear across the front; and inside, the large living room, 14 by 28 feet, occupies the entire front of the house. Note the way the vestibule is worked in, half of it coming out of the porch space and half out of the living room. This vestibule will add 50 per cent to the



First Floor Plan.



Second Floor Plan.

Arrangement of Seven-Room Gambrel House. Size 29 by 32 Feet.

warmth and comfort of this living room in the winter time.

Directly across from the vestibule entrance door are the stairs to the second floor. The two bottom steps are out into the room and the third step is a

platform landing. A single sliding door closes this stairway opening when desired. Steps lead up to this landing out of the kitchen also, and this doorway is closed with a single sliding door. One seldom sees a better arrangement.



Substantial gambrel roof seven-room residence. Size, 29 by 32 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6559 H.



Typical New England Home. Size, 43 feet by 26½ feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan, roof plan, first and second floor plans, front, rear, two side elevations, wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6685 H.

A Delightful New England Home

It is a pleasing combination of the colonial and modern styles of architecture, as these styles are being used in New England today.

The quaint dormer windows at both the front and rear of the house add a touch of picturesqueness to the rather plain exterior; and the deep, sloping roof, which extends at the front to form the top of the wide veranda, supported by six large pillars, is distinctly of the old and comfortable farmhouse type, but adds to the appearance of the house.

At the rear, this roof is fashioned into one of the overhanging variety, so frequently seen in homes of the colonial period, and combines effectively with the modern porch and trellis-screened sun-parlor. This sun-parlor is one of the very interesting features of this attractive home.

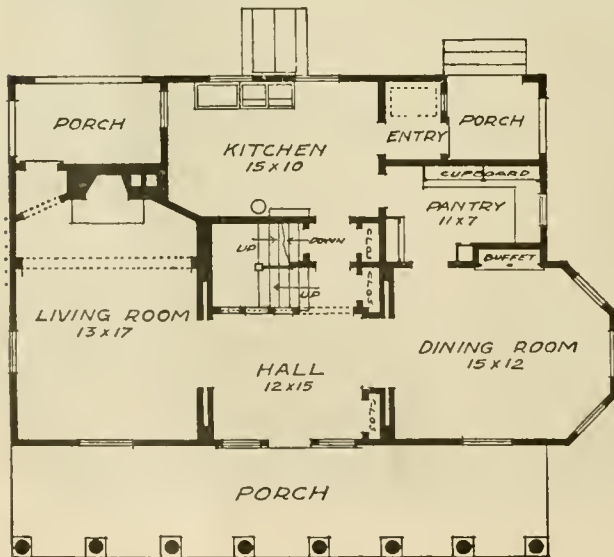
A fancy high trellis has been erected at one side of the house, and at its base vines have been planted.

The exterior is further improved by the large bay window at one side, which allows the bright sunlight to enter and brighten the dining room.

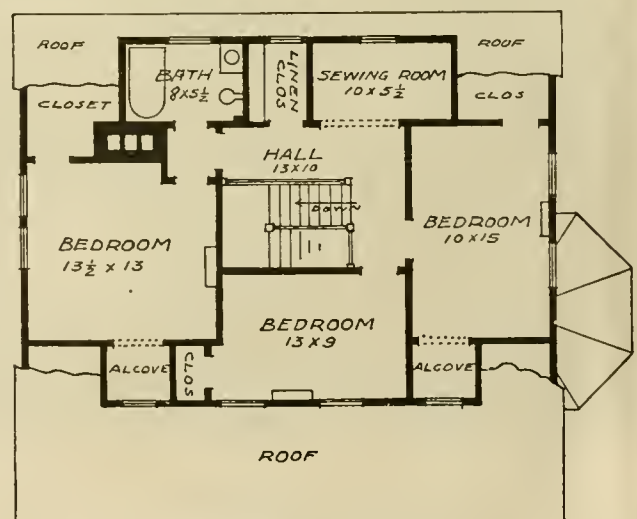
The outside of the house is finished with shingles, stained a soft grey.

This gives the house the appearance of being old and weatherbeaten and the grey tone combines well with the pure white of the trim.

The entrance door leads directly from the veranda into the hall, which is rather unique and attractive in appearance; the fern leaf pattern paper and dark green trim produce a decidedly interesting effect. The staircase is concealed from view by a screening, the upper part of which suggests a Japanese ramma, or ventilation panel. It is stained to match the trim, and shows the grain and markings of the wood. This is a stairway treatment that is very simple and



First Floor Plan.



Second Floor Plan.



Rear View, Showing Screened Porch.

economical to carry out, yet there is scarcely any arrangement more satisfactory for a house of this kind.

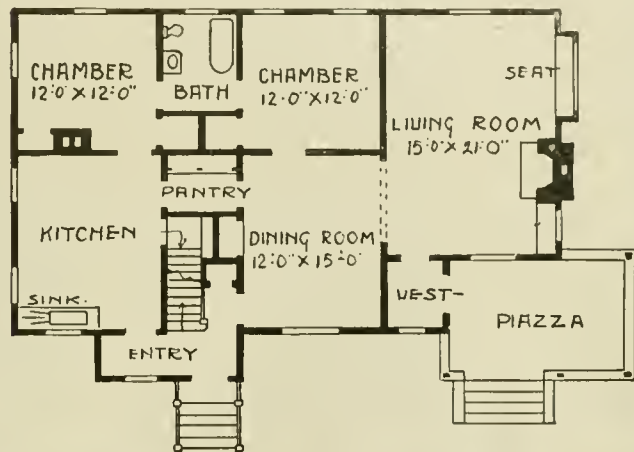
A glance at the floor plans will show the exceptionally fine disposition of space in this house. A number of features are especially interesting. To the left of the hall way is the living room, a large, square apartment, finished in a cherry stain, its walls covered with paper of a fanciful design in tones of red, green and yellow. At one end of the room is a fireplace, constructed of red bricks laid in white mortar. To the left of the fireplace, an alcove, separated from the main room by pretty brown silk curtains, leads to the little piazza, enclosed as a sun-room.

On the opposite side of the hall is the dining room, panelled with green burlap up to within about three feet of the ceiling, where it is met with a dado of Southern foliage designs and is finished at the top with a narrow molding. The furniture is stained to match the wood-

work, and is simple in design. The art square upon the floor repeats the colors of the dado. The dainty white curtains at the windows, together with the drop shade of Japanese design set in a wooden frame, give charm and personality to the room. A very attractive and useful feature of this room is the built-in china closet, with drawers underneath for linen and silverware.

Directly back of the hall is the kitchen, a long, low, pleasant apartment, finished in yellow plaster. It is separated from the hall by a shallow entry and closet, where the brooms and dusters are kept. The walls are so constructed as to deaden the noise and prevent the smell of cooking from penetrating into other parts of the house. This arrangement with respect to the kitchen is an interesting feature, and has proved most successful.

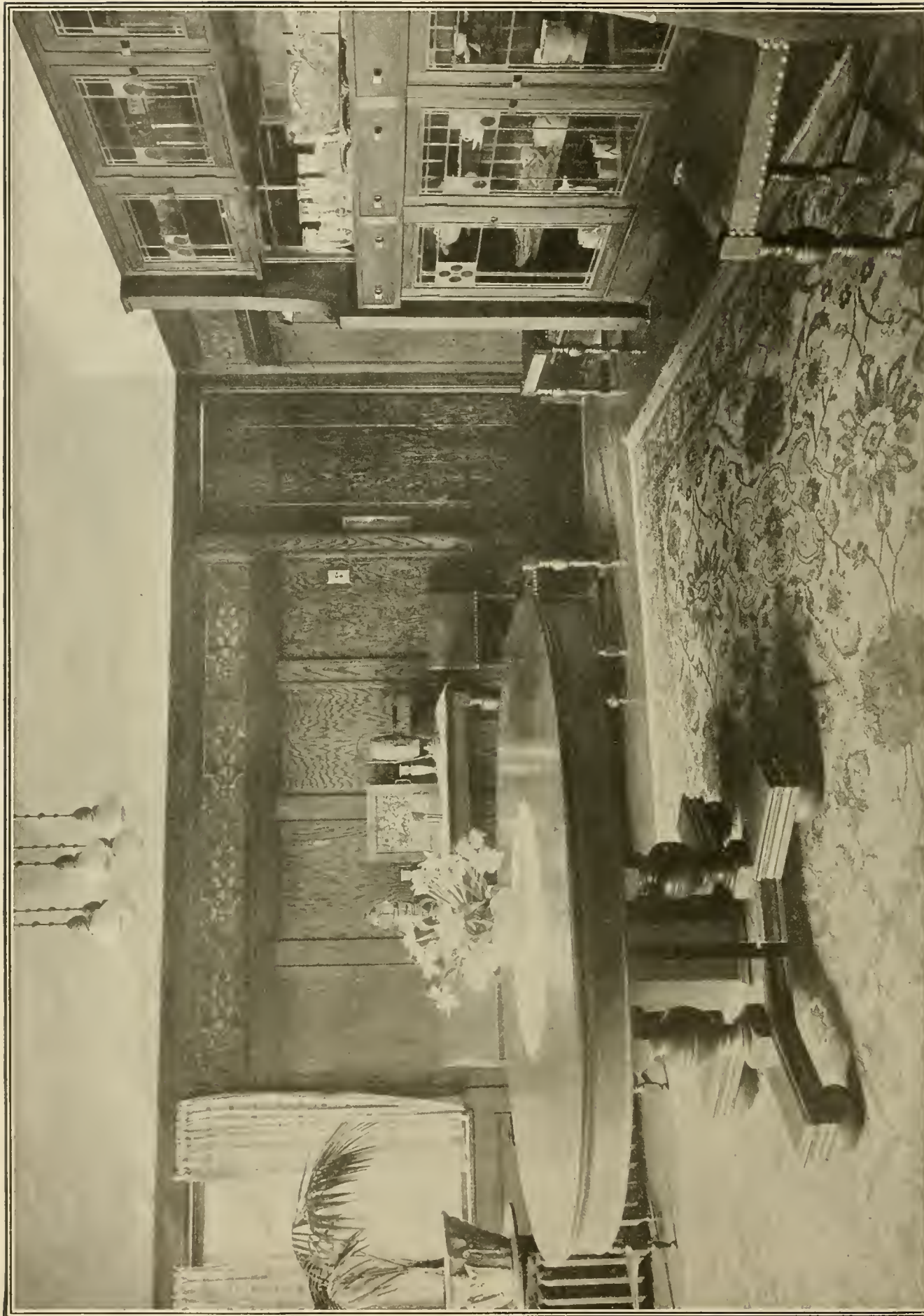
The second floor is divided very satisfactorily. The hallway is lined with bookcases on one side, and widens out into a cozy den or sewing room. The rest of the upper story is divided into three chambers and a bathroom, all daintily finished.



Main Floor Plan of Design No. 6686 H.



Attractive Frame Bungalow. Size, 47 feet by 28½ feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan, roof plan, first and second floor plans, front, rear, two side elevations, wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6686 H.



Nothing Gives a Richer Effect than Real Wood Paneling. This Sumptuous Dining-Room is Strikingly Designed with High Wood Panels and Stenciled Border Design. Filling all the Space Up to the Continuous Head Trim. The Built-in-Place Sideboard Deserves Study. Leaded and Art Glass Used with Restraint, Adds Immensely to the Beauty of any Buffet or Bookcase.

An Elegant Suburban Home

An elegant residence of cement stucco construction, 42 feet by 36 feet 6 inches in size, exclusive of the porch and sun parlor, is shown in this design. It is a palatial structure designed for a large family.

There are a number of features of special interest shown in the detail drawings (on the three pages follow-

of long panel design, and the two sun parlors.

One general interior woodwork design is worked through all the rooms in the lower part of the house, including the two sun parlors, which are made almost as light as outdoors by the casement windows at the front and at the ends.

Illustrations of the interior wood-

each other so as to leave a generous opening when so desired.

In the corner of the house, diagonally opposite the breakfast room, is a den that appeals to the men folks. This den may be made into a loggia in the summer time by opening all the casement windows, or it may be closed up tight for warmth in winter and still retain the exclusive comfort



An eleven-room stucco residence of modern design. We can furnish complete blue-printed working plans and typewritten specifications for only \$12.00 per set. Blue-prints consist of basement plan; roof plan, first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6646 H.

ing) which will appeal to those requiring homes of such proportions. The main characteristics are the reception hall, 13 by 10 feet in size, with a broad open stairway finished in plain elegance; the large living room 15 by 25 feet, with its beam ceiling

work are given in the sheet of detail drawings on pages 54 and 55.

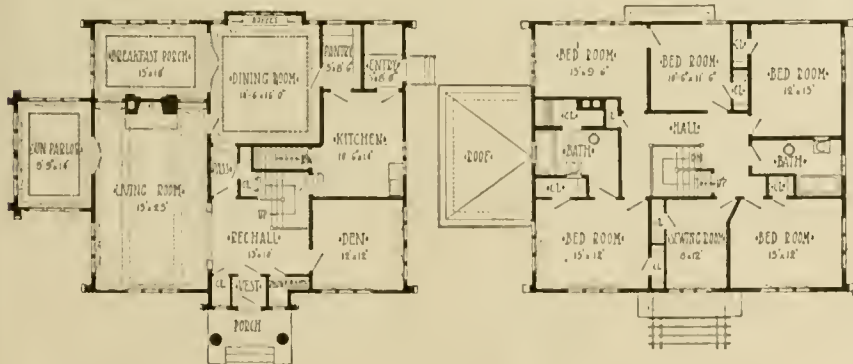
The breakfast porch is really another sun parlor, which opens from the dining room by means of a wide archway. This archway is closed by double doors, which fold back upon

which men imagine they are entitled to.

There is a great advantage in casement windows for a built-in loggia. They close as tight as a door and open freely to expose the whole window outlook when necessary. There is a new way of arranging curtains for these windows which permits them to open sideways. They are hung on horizontal wires and are pulled by draw strings to fold back in narrow plaits.

Upstairs there are five bedrooms and a sewing room and two bathrooms, besides all the closet room that a family could wish for.

A square hall in the center of the house gives a great opportunity to build a modern stairway of a very elaborate design, the construction of which commences with the concrete floor in the basement and reaches clear up to the attic.

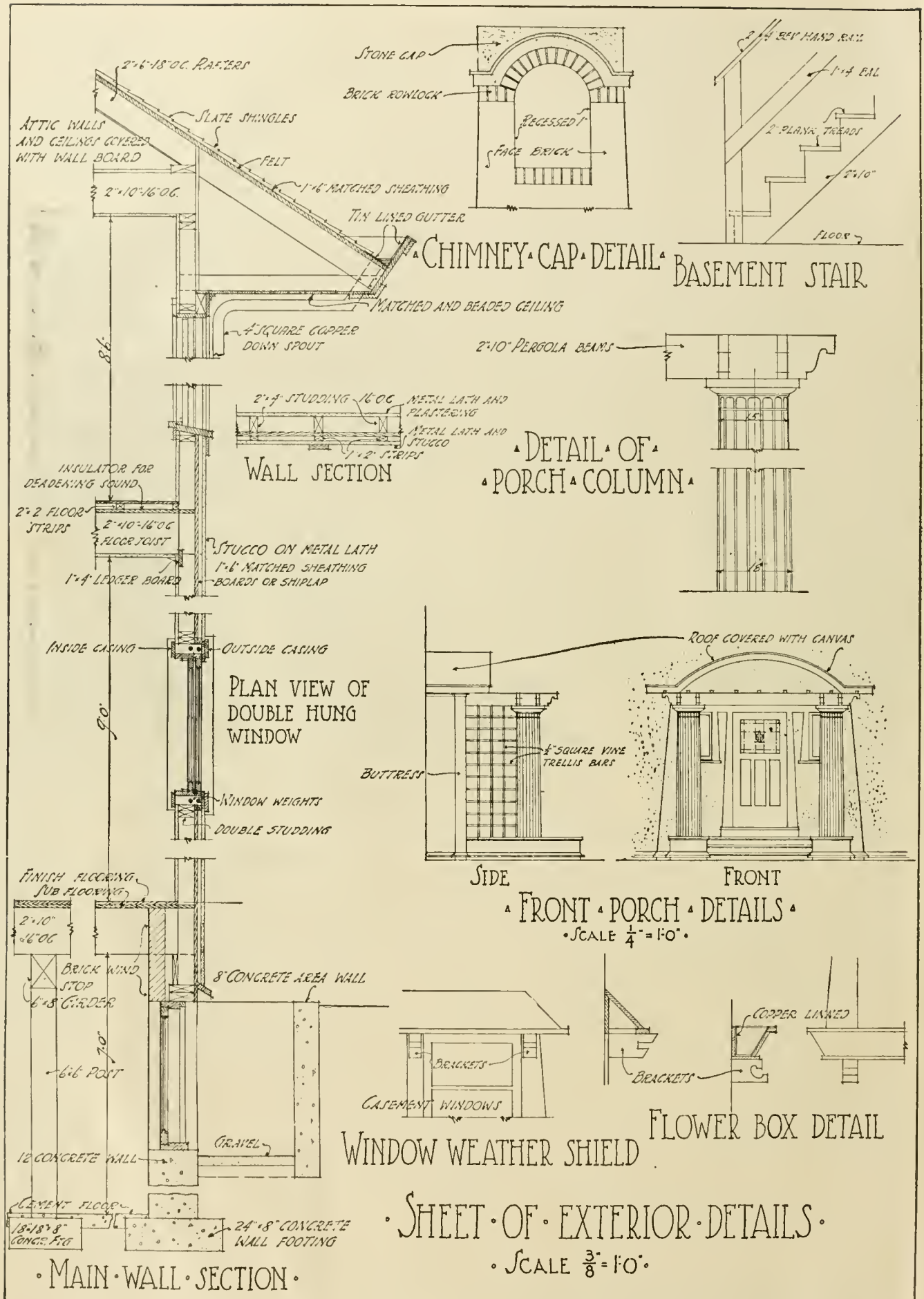


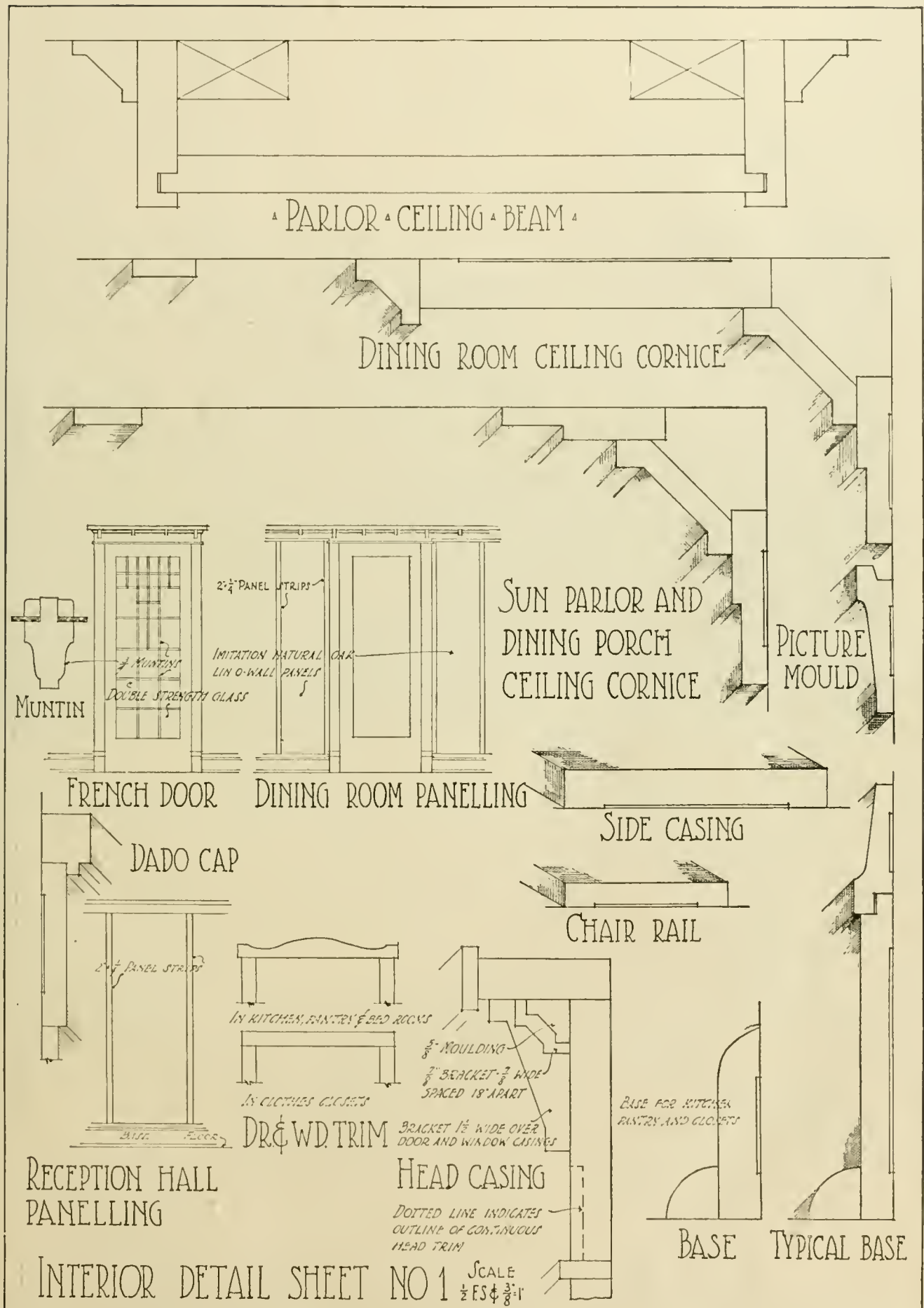
First Floor Plan.

Second Floor Plan.

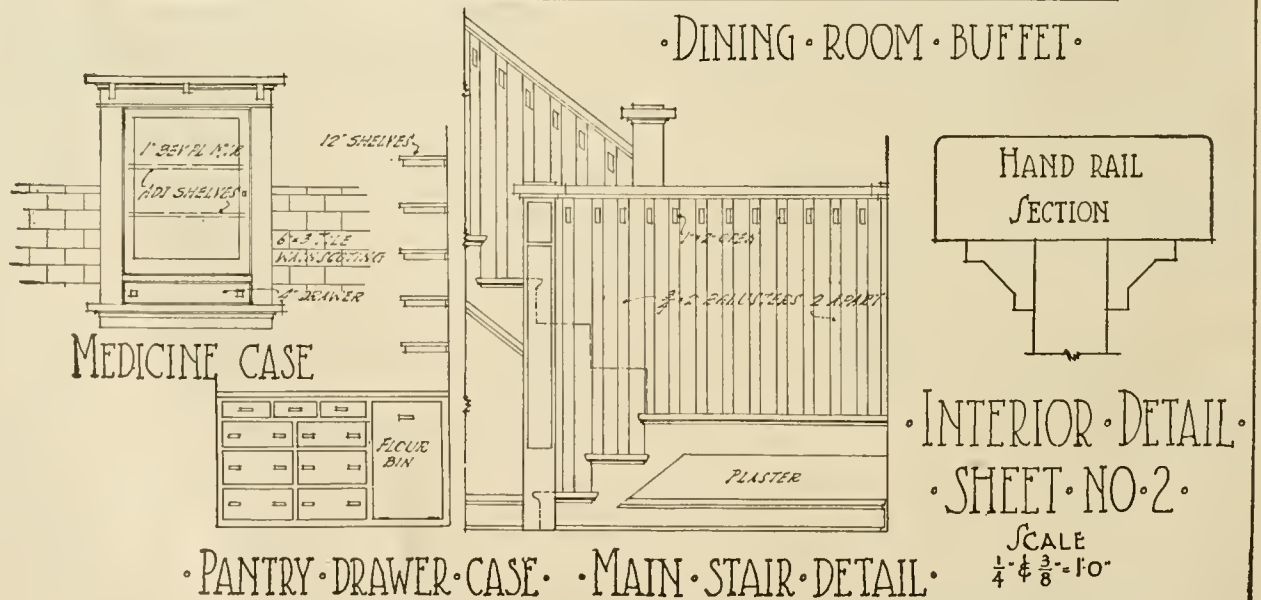
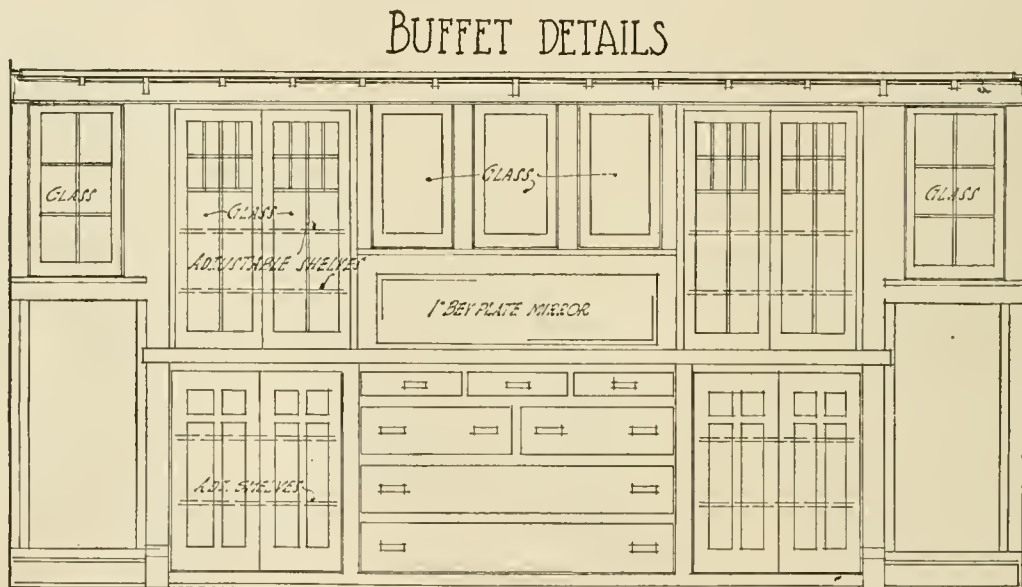
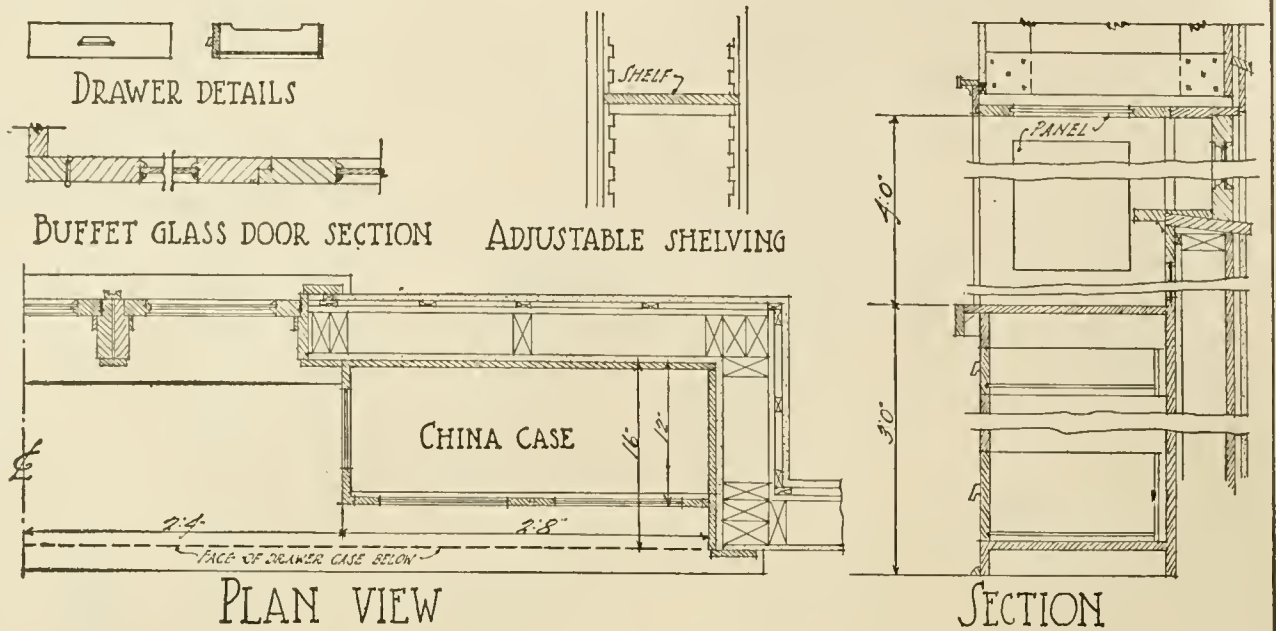
Arrangement of House, Size 42 by 36 ft. 6 in.

For Interior and Construction Details of this House see Next Three Pages.





Details of Interior Finish, to Scale for Cement Plaster Residence (Design 6646 H.).



Five-Room Shingled Bungalow

Here is a stylish little bungalow home, 40 feet 6 inches by 26 feet 6 inches in size, exclusive of the front porch. It contains five large rooms and bath.

A good many persons prefer the broad side of a house to look out towards the street. It gives a wider frontage to get a better view. Also, this arrangement gives an opportu-

porch seat, but only occasionally can they find a proper place to hang it. No article of furniture is more in the way than a swinging porch seat when it is hung in the wrong place.

The downstairs plan of this house offers a good deal of comfort to the square foot. The living room, with the big fireplace and book-shelves, is carefully laid out for the comfortable placing of large pieces of furniture.

tance from the walls of the room. A living room must either be large enough to place furniture out into the room or else have wall space for the accommodation of a davenport and several large upholstered arm chairs.

This plan places the stairway in the rear of the house. It is a combination stair with a grade entrance at the back. This grade door makes a convenient entrance into the cellar, or up



Artistic five-room shingled bungalow. Size, 40 feet 6 inches by 26 feet 6 inches. We can furnish complete blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6647 H.

ity to build a long roof with gable ends.

There is an advantage in gable ends when the space under the roof is required for bedrooms. A rather massive gable roof extension in front, supported by heavy brick buttresses,

Rooms differ greatly in regard to the accommodations of modern furniture. Our ideas of comfort have been considerably elaborated to meet the idea of modern designers of modern living room furniture.

A living room must be light, at the

into the back hall. From the back hall the stair goes up to the floor above in the same way by a platform turn about half way up. This platform is of sufficient height to give headroom above the grade entrance.

Upstairs, under the center of the roof, is a bedroom in one gable and a bathroom in the other gable. This arrangement utilizes the space under the roof to good advantage. The other bedroom is on the first floor at the end of the hall.

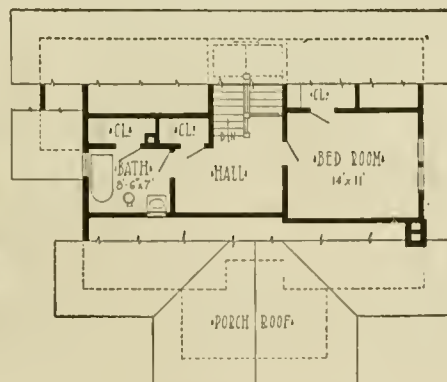
The side entrance to the kitchen with the walk at the side of the house leading out to the street is made necessary at times, because of the narrow city lots, but it is convenient whether there is lack of room or not.

The arrangement of kitchen and pantry is designed to place the kitchen entirely away from the front part of the house.

There is a great deal of built-in woodwork in the pantry. The cupboard is larger than ordinary pantry cupboards as it is intended to reach up to the ceiling.



First Floor.



Second Floor.

Arrangement of House, Size 40 ft. 6 in. by 26 ft. 6 in.

covers a porch 16 feet by 7 feet 6 inches. At the sides of the porch are places for swinging seats. Everyone likes a large, comfortable swinging

same time considerable wall space is required, otherwise large pieces of furniture must be so constructed as to look well when placed some dis-

A Neat Five-Room Cottage

An English style cottage with a hip roof and a basement makes a very satisfactory small house for certain level locations where it is impractical to excavate very deep. There are many towns in prairie sections where the fall is not sufficient to put in deep sewers; and in many towns in the southern districts it is not necessary to dig sewers deep down into the ground to avoid frost. On such building sites basement houses are quite common and this general design is well liked.

The basement being principally above ground has windows almost as large as ordinary house windows. The basement makes a splendid workroom, being naturally cool in summer and warm in winter. It is the proper place for the laundry and store room, besides providing conveniences for doing a great many household chores.

The hip roof idea prevails in some communities, because it is neat and attractive in appearance, and because the inhabitants are accustomed to seeing a hip roof or "cottage roof," as it is often called, so that it has got to be a local favorite fixed in the minds of the people.

All the living rooms and bedrooms are on the first floor, which is high enough up to be secure from moisture; also a great many people feel more comfortable

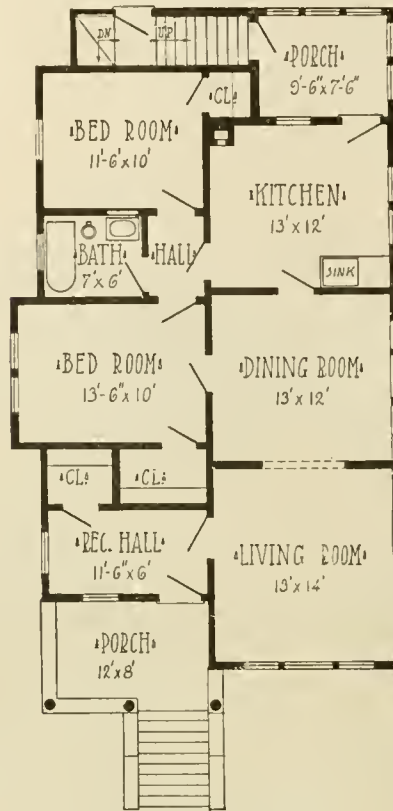
in living rooms that are placed well up from the ground. They feel that an ele-

vation of this kind is a sort of protection against night prowlers.

The woodwork all through this little house is plain and neat. The woodwork is plain and smooth with square corners, but usually the mouldings are of considerable size. People building these cottage houses like to see considerable interior woodwork, so that millwork factories are turning out patterns especially suitable for such cottage houses. The one particular pattern, that is selected, is carried into all the rooms on the main floor.

There may be very little woodwork in the basement, but from the front vestibule through to the rear porch considerable taste is displayed in designing and proportioning the interior finish of the living rooms. A key to such finish usually is given at the front entrance. The design selected for the front door posts and the lintel and the style and workmanship of the front door generally set the fashion for the principal living rooms.

The bedrooms, bathroom and kitchen may vary from this rule, but generally the vestibule, living and dining rooms are all finished in the same general design. The dining room may be made a little more elaborate with built-in cabinets, plate rail and panels, but it is still held down to the original ideas.



Floor Plan of Cottage.
Size 28 by 48 ft.



A neat design for a five-room cottage, 28 by 48 feet in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6649 H.



Seven-room house with two sleeping porches; size 30 by 37 feet. We can furnish complete blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6650 H.

A Sleeping-Porch Bungalow

This attractive story and a half house contains five rooms on the first floor, two bedrooms and a bathroom on the second floor, besides two sleeping porches. These are a special feature of this design of great popular value. There also is a generous veranda which reaches clear across the front of the house.

The perspective is interesting and pleasing when viewed from any direction, especially when looking towards either front corner. Considerable outside brick work shows in the large square chimney and the porch pillars and buttresses, which are all designed to match each other.

Entering through the front door there is first the splendid living room, 25 by 13 feet, designed for comfort—bordering on elegance. Individual taste in selecting interior woodwork will decide the style of this room.

Most women prefer rich dark colors with considerable woodwork. Panel designs for both walls and ceiling are popular. Often the panels are pure white to contrast with the dark woodwork. White panels made of wall-board set in frames of dark wood are

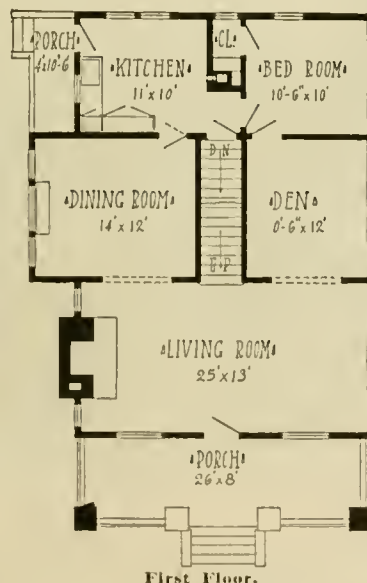
easily made and generally are pleasing.

Wallboard panels are made in sizes to suit large or small rooms. They take paint or tints well and may be decorated in fancy designs of stenciled scroll work, or by actual hand

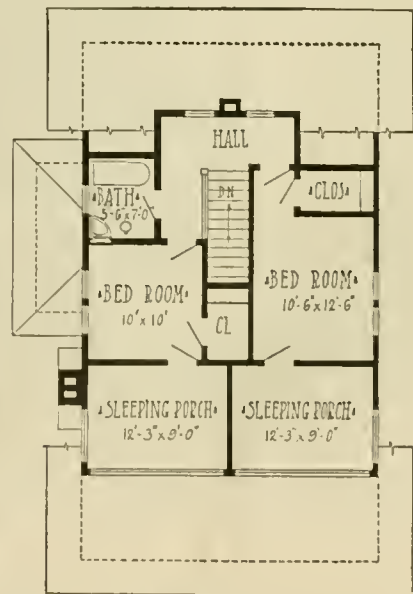
decorative painting.

This floor plan shows the three rooms on the first floor connected with archways.

There is one bedroom on the first floor—a feature that is liked and demanded by some families.



First Floor.



Second Floor.

Arrangement of House, Size 30 by 37 ft.

Cozy Bungalow Home for the Auto Enthusiast

The illustration on this page shows an attractive way to build on a high corner lot. The excavation earth was added to the original bank and worked over with scrapers into a terrace. Flanking the terrace with boulders completes a characteristic setting for the beautiful bungalow that settles down so gracefully on the crest.

Stabling for the automobile was one of the objects in selecting this elevated corner lot, but the view from the living room windows also presented a convincing argument.

Commencing with the garage entrance from the side street, the basement at once becomes one of the most interesting features of the house. The concrete floor of the garage is on a level with the concrete sidewalk on the street, so the entrance is easy and natural. Eight feet between the concrete floor in the garage and the ceiling is provided to give plenty of headroom.

All the cellar walls, including the garage, are made of concrete, and the ceiling over the garage is made of cement plaster on metal lath; this makes the ceiling fireproof. Likewise all the garage doors may be made of metal lath and cement with just enough woodwork to hold the hinges and door fasteners. At the back end of the garage is

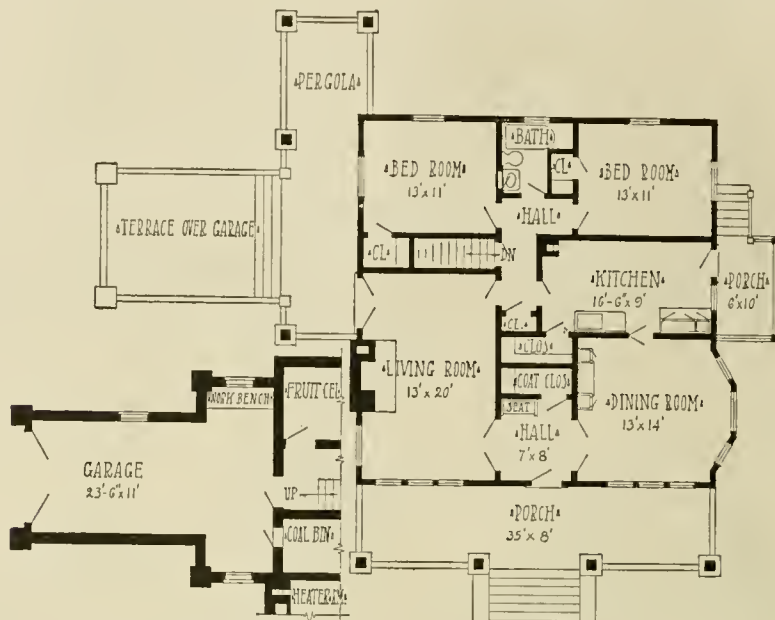
a window which opens into the coal bin in the cellar. Coal is put into this large coal bin through the window by a chute from the garage, which settles the coal delivery difficulty for this house.

A work bench with cabinets for tools fits into the corner in front of the garage window which looks out under the far end of the pergola, where a little noise is not likely to penetrate into

the house. There is always some tinkering to be done where an automobile is kept, so that the little shop comes in handy at times.

A door opens from the garage into the house basement opposite the stairway leading up into the back hall, which is a great convenience in stormy weather.

The bungalow itself is thoroughly well built and conveniently arranged.



Plan of Garage on Basement Level.

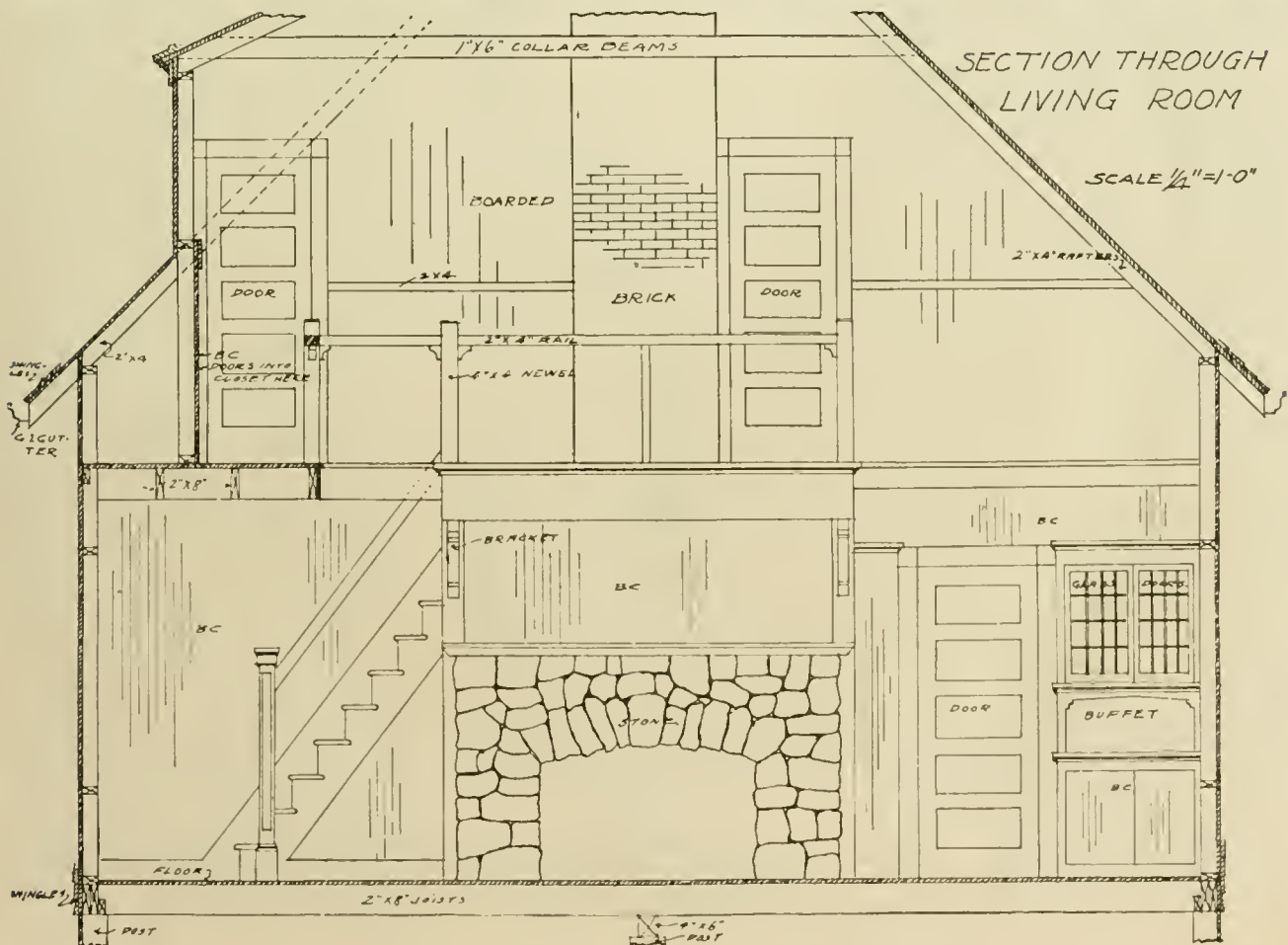
Plan of Bungalow, Size 35 by 36 ft.



A corner lot bungalow with garage annex. Size 35 by 36 ft. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6651 H.



Huge Field Stone Fireplace Gives Warmth and Cheer.





Cement Stucco Cottage of Five Rooms. We can furnish complete set of blue-printed working plans and typewritten specifications, for only \$8.00 per set. Blue-prints consist of basement plan; ground floor plan; roof plan; front, rear, and right and left side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. In ordering, mention Design No. 6653 H.

Cement Stucco Cottage of Five Rooms

The first stucco house was a hut of reeds plastered over with mud to keep out the elements. And although it was a far cry to the elegant and substantial structure of the present day, the modern stucco house is, in a sense, a replica of this humble device, handed down to their descendants by the forefathers of the Man of Moderate Means.

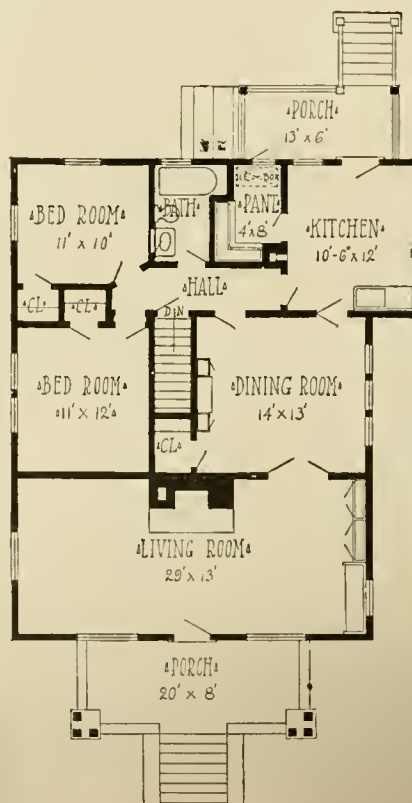
From the fire-prevention point of view, the frame house is simply a pile of fuel conveniently equipped with flues. The solid brick or stone wall in residences has for centuries been a known quantity; but the cement house has not as yet been so well established. Its real value in this respect, however, whether of the "poured" or the plastered type, is daily gaining the recognition to which it is justly entitled. If covered with cement, asbestos, or metal shingles, it is as effectually non-burnable as any other, and affords all the protection that is practicable. Moreover, it satisfies the architectural and aesthetic taste for "something different," and—perhaps its supreme claim to popular favor—it does all this at a figure that dispels the imaginary "hoodoo" of prohibitive costs and that need not exhaust the resources of anyone courageous enough to attack the home-building problem.

Nothing else so pleasingly harmonizes with nature's color scheme as the soft

tones of the stucco house. It has the air and the substance of permanency, wears well without tiring, and ages gracefully. Its maintenance cost is very

low, and, even in first cost, there is nothing about it to frighten even the most timid investor. For cement plaster, applied over wood sheathing—the ordinary construction—will cost only about 3 per cent* more than the ordinary clapboard wall in a frame house; while a stucco wall built by fastening metal lath directly to the studding, and back-plastering, will cost less than frame construction at the present time, while giving superior value in insulation, rigidity, fire-resistance, and enduring qualities.

High and dry and sanitary, the house here illustrated appeals at once because of its pleasing lines and general air of cosiness. The brick piers for the front porch columns attractively embellish the whole exterior scheme. Entering the house from the spacious porch, we find the entire front given up to the living room, with fireplace opposite front porch, and built-in window seat and bookcases at right end. Glazed doors of the modern type, near right end, swing open into dining room with built-in buffet. In the rear of the house, a hallway runs across, giving access to two bedrooms at left, bathroom in rear center, and central stairway to basement, and connecting also with dining room and kitchen at right. Swinging doors also connect dining room with kitchen. Latter may be entered from back porch, from which also icebox in pantry off kitchen can be filled.



Floor-Plan of 5-Room Cement Stucco Cottage. Size, 30 ft. by 40 ft., Exclusive of Porches.



A two-story square built farm house. It is 37 by 32 feet 6 inches, exclusive of the front porch. We can furnish complete blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6654 H.

Square Built Farm House

Here we have a full two-story country house, 37 by 32 ft. 6 in. in size, including the projection at the back. It is square built and is covered with a hip roof. The plan is designed especially for the farm. Farm houses differ from town houses in many respects. They are built for business as well as for residence purposes, but the comforts of home are not to be sacrificed to accommodate business.

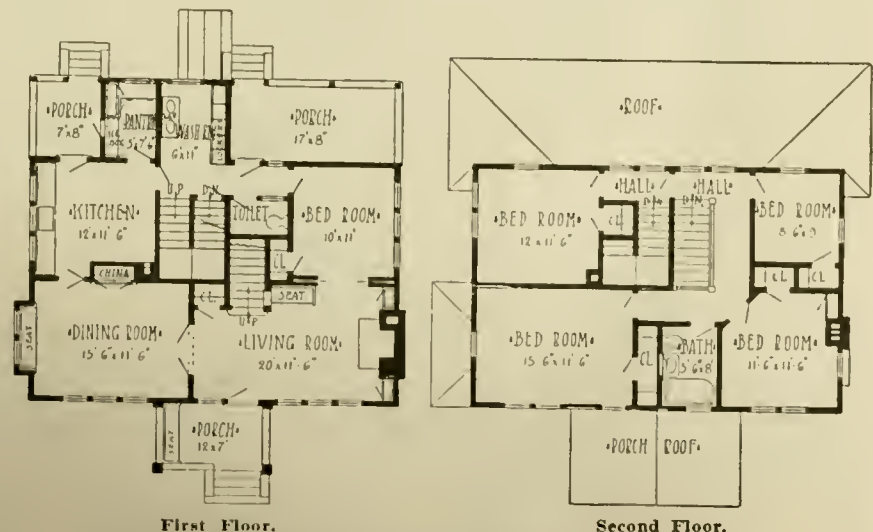
This plan is arranged to keep the farm work in the rear so far as possible, leaving the front of the house to family comfort and sociability. There is a wide rear entrance to the cellar because a farm house cellar is the most important part of the house. The cellar entrance should be wide, with easy concrete steps leading down to a 4-foot door. Household supplies in the country are provided in wholesale quantities, so that plenty of storage is required, and it should be cool, if not cold. For this reason farm cellars should be partitioned off into compartments in order to have rooms for different purposes.

The floor plans of this house show conveniences for farm help, both on the first and second floors. On the first floor is a washroom with lockers, so that

each man may have a separate cupboard for his extra clothing. All farm hands like to have a place to keep their small belongings under lock, and they like to have a comfortable place to wash. The old-fashioned plan of washing in a tin basin on a bench near the pump may never go out of fashion on farms in hot weather, but for about nine months in the year a special washroom provided with hot and cold water on tap is a

modern necessity on the farm.

The rooms upstairs intended for the family are in the front part of the house, and space for farm help in the room at the head of the back stair. In fact, there are two bedrooms upstairs that may be used for the help when necessary, leaving the downstairs bedroom and the two front bedrooms and the upstairs bath room for the farmer and his family.



First Floor. Second Floor.
Arrangement of Farm House, Size 37 ft. by 32 ft. 6 in.



Six room bungalow on narrow lot. Size 27 feet 6 inches by 40 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6656 H.

Round Gable Bungalow

Two rooms wide and three rooms long is the size of this bungalow—the front porch is extra. In carpenter's terms it is 27 feet 6 inches by 40 feet, exclusive of the front porch.

In every town there are narrow lots that require depth instead of width in planning a house. These lots often are otherwise quite desirable and it is necessary to build houses to fit them.

Also there are families that require three bedrooms at certain times during the year when relatives levy their periodical assessments. Six room bungalows increase in value on such occasions.

This bungalow has a cellar wall up to or a little above the lot level. It depends upon climate to some extent, but fashion dictates the manner in which bungalow cellar walls and windows shall be built and arranged. Ordinarily the wall is four and a half feet or five feet high. The sills are placed on top of the wall in the usual way, but the floor joists are boosted up about three feet to get sufficient cellar headroom to set a furnace.

This manner of construction leaves room for good sized cellar windows between the sills and the ribbon that supports the floor joists.

The front wall of this house is built higher to level up with the porch walls. The floor of the porch is only a few

inches lower than the main floor of the house, so it is necessary to account for the difference in the heights of the cellar walls and veranda foundation.

The space under the veranda is not excavated, so that the excavation for

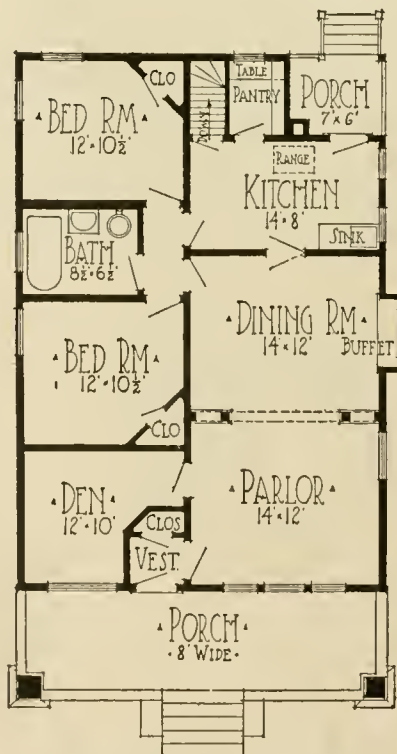
these extension walls is only sufficiently deep to reach down below frost.

The plan of this little bungalow is interesting. It is not easy to lay out a plan that will provide six rooms in the bungalow without adding a wing or building larger. In this case it was desirable to avoid this additional expense.

There is a space saver in the dining room that is somewhat unusual. A built-in buffet reaches across the window recess and comes up even with the window sill. The china cupboards are extended up each side to bring them level with the top of the window, so the casing and finish for the top of the window extends around the tops of the china cabinets. It frames the window somewhat on the usual order of framing a mirror at the back of built-in sideboards. The advantage is that a novel effect is obtained by including the window. Also the extra light is needed.

Good kitchen and pantry accommodations are laid out in a very interesting way. The back porch really is a part of the kitchen, because it is closed in with lattice work and wire fly screens, with the intention of making it a sort of summer kitchen annex, in which a good deal of the work of preparing the meals may be done in the open air.

Owners of bungalows that are built on narrow lots often make good use of the ground at the back of the house, so that the rear porch often is more attractive than the front.



Arrangement of Bungalow,
Size 27 ft. 6 in. by 40 ft.

Wide-Board Bungalow

A story and a half house containing eight rooms is shown on this page. It is 30 by 37 feet in size, exclusive of the porches.

This is a good house for a large family. It has a good looking, prosperous appearance, as though the family feels proud to own such a home. It is built of studding in the ordinary way, except that the outside is covered with wide boards, joints covered with battens; the gables are shingled.

The plan provides for a side hall with an open stair. To the right of the hall as you go in is the large living room 21 by 13 feet. The main decorative feature of this room is a very handsome fireplace.

The parlor and the dining room are connected by an extra wide archway, so that the two rooms may be used together when occasion requires.

The men folks are considered as having some rights; by planning the library at the back end of the hall, this makes a very cozy sitting room that is likely to be used a good deal, especially by the men who carry their business accounts home with them to go over in the evening.

The stair leading down to the cellar is in the rear at the side of the pantry,

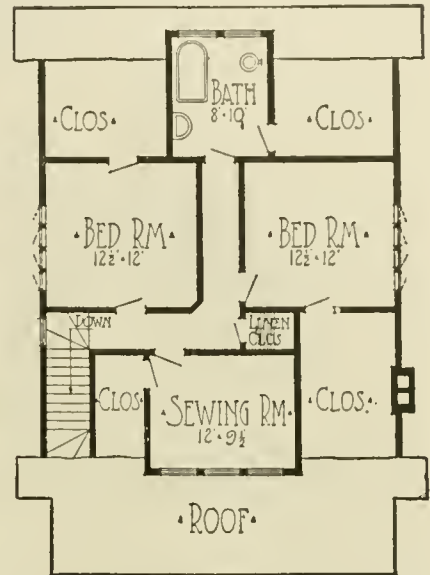
which is more convenient in this house than the usual way of going down to the cellar under the front stair. This plan gives a good cloak closet in the front hall, a convenience that is always

appreciated by all the family.

Upstairs there are three good bedrooms and any amount of closet room, because the different clothes closets are worked in under the slope of the roof.



First Floor.



Second Floor.

Arrangements of House, Size 30 by 37 feet.



A splendid 8-room, story and a half house. Size, 30 by 37 feet. We can furnish complete blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6657 H.



A Saucy Bungalow of Five Rooms. Dimensions, 29 feet 6 inches by 36 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plain; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6658 H.

A "Pug-Nose" Bungalow

Bungalows require special architectural treatment in regard to details of construction. In this design a number of special bungalow features are shown. The peaks of the gables conform to bungalow ideas by introducing an artistic effect that is thoroughly in keeping with the subject. This has been facetiously called the "pug nose" gable effect.

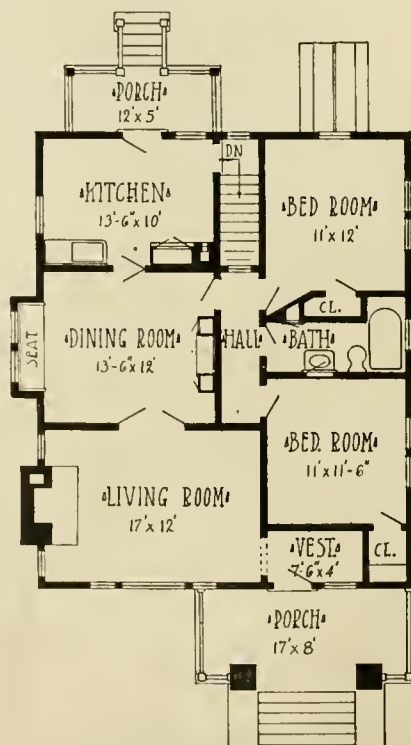
The windows and window frames also are in keeping with the oddities of bungalow building. Also the cellar windows are shaped in conformity with the larger windows, but do not follow too closely any one particular pattern. The cellar windows are set in the siding of the house the same as the larger windows that light the living rooms, which is one reason for the window family likeness.

The chimney is rough stucco finish in design similar to the heavy porch pillars. The similarity includes the caps on the porch pillars and the chimney top.

Another bungalow feature is the manner in which the timbers are reached out from the gable ends of the house to support the wide roof projection. The cornice trim at the gables is especially interesting, because of the manner in which the fascia is cut at the peak

and at the eaves.

The front porch is 17 feet by 8 feet and is so protected by the overhanging cornice that it makes a very comfortable outdoor sitting room in summer.



Floor Plan of Bungalow,
Size 29 ft. 6 in. by 36 ft.

It is a typical bungalow porch with wide steps and heavy columns and mission style of railing without spindles.

The plan of the rooms also is worked out in true bungalow fashion with the two bedrooms and a bathroom on one side of the house and the three living rooms on the other side. Whenever possible, the living rooms are laid out on the sunny side of the house, because so much more time is spent in the living rooms than in the bedrooms.

Provision is made for a stairway to the cellar, going down from the kitchen. The stair is laid out with wide treads and easy risers because the housewife makes a good many trips to the cellar during the day.

The rooms in this bungalow are all good size and carefully arranged for convenience and comfort. The living room is an elegant room, being 17 feet by 12 feet, well lighted and well ventilated, especially when the fire is burning in the fireplace.

The bathroom is very nicely arranged with a medicine cupboard over the washstand and a linen cupboard big enough to hold towels and other bathroom supplies.

Altogether it is a very neat, attractive little bungalow that is well planned and is often spoken of as being the prettiest house in the neighborhood.

Extra Ornamental Bungalow

Cobblestone trim with shingle siding gives a distinguished appearance to this nifty cottage. An interesting effect is also produced by giving different pitches to the roof, which effect is extended out over the front steps, terminating in the level top of the pergola. A cobblestone wall, porch piers and chimney all help to produce an unusual front.

The manner of shingling the sides of the house in alternate wide and narrow courses is different from the ordinary, but it helps to carry out the architectural effect as intended. This manner of siding houses uses up just about as many shingles as though they were spaced evenly, but it gets away from the ordinary way of laying shingles and it makes a distinction between the sides of the house and the roof. The joints are broken in the same way and the siding is just as thick and valuable, but it makes a difference in the appearance of the house.

The windows are built on the multiple window plan, but they are arranged to produce a casement window appearance. Woodworking factories make box frames in sizes to contain as many windows side by side as the plan calls for. There are weight boxes between each two windows, so that the sash are hung by sash weights in the usual way. There is a great deal of window surface in this little cottage.

The plan shows that the front of the house is given up entirely to comfort

There is a living room 22 by 14 feet, with a sun parlor loggia 11 by 7 ft. 6 in., which also is used as a vestibule entrance to the living room. The sliding door, which connects the dining room with the living room, rolls back into the partition entirely out of the way.

There is an extension out from the dining room to accommodate a built-in buffet or sideboard. This extension is a study, because of the manner in

which the windows are bordered by the cabinet work. Such designs show the care with which modern millwork is manufactured to fit the different styles of architecture. The several odd windows built into this extension are intended to admit plenty of light to the dining room and to merge with the built-in cabinet work in such a way as to create envy amongst the neighbors.

The two bedrooms and bathroom are connected by a short hallway with doors opening into the dining room and kitchen, which offers a good deal of convenience, considering the small amount of space.

The kitchen, pantry, cellar stair and back porch of this little cottage house are very compact and conveniently arranged for doing the housework. In a cottage more attention usually is paid to the cellar than in houses that have more storage room on the first and second floor. This is one reason for building an extra stairway to connect the kitchen with the basement. The basement in a bungalow often is used for different kinds of storage and there are a good many trips made down and up the basement stairs.

No modern house is complete without a furnace, but a furnace spoils a farm cellar unless there is a solid concrete or tile wall to shut the vegetable cellar entirely away from the furnace room. Also the coal bin should be well built to prevent dust.



Arrangement of Bungalow,
Size 28 by 44 feet.



Extra Ornamental Bungalow with a cobblestone front. It is 28 feet by 44 feet in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6659 H.



An eight-room cement plaster house. Size, 27 ft. 6 in. by 40 ft. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6660 H.

Modern Cement Plaster House

A cement stucco finish, story and a half house, 27 ft. 6 in. by 40 ft. in size, exclusive of the front porch, is shown here. The heavy front porch gives the design a rather massive appearance as you see it from the street. The porch is 7 by 24 feet, covered by a gable end roof with considerable projection of eave that protects the porch in all kinds of weather. The two solid piers extend about six feet up from the ground with short wooden pillars to support the heavy archway that spans the porch from one pier to the other across the front entrance. These heavy looking piers help to establish a solid design that looks much more expensive than it really is.

The porch foundations are entirely separate from the cellar wall. The pier foundations reach below frost, but do not project much above the ground. The work from the foundation piers up is made of wood covered with metal lath and plastered with cement stucco. This work is made solid and strong, but is much cheaper than solid concrete or stone. The

same character of finish is used on all the exterior parts of the front porch as well as to cover the side walls of the house, including the dining room window extension.

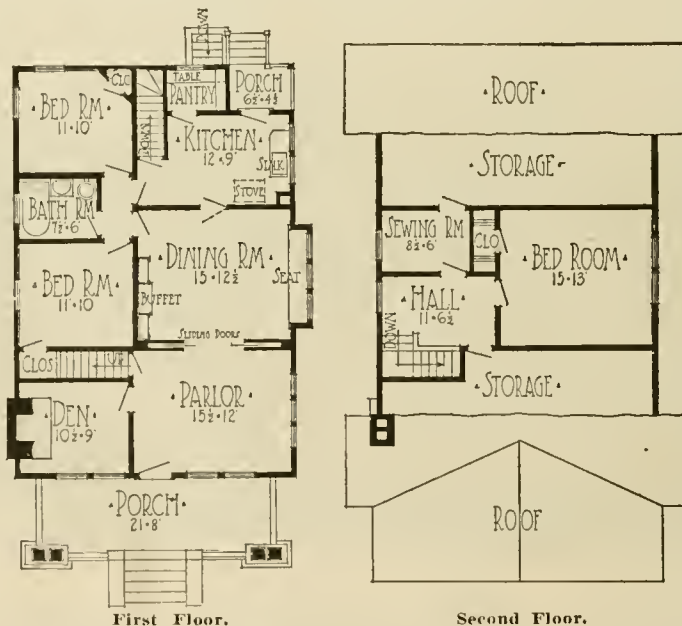
The main part of the house is plain, square in build, and covered with a gable end roof. The manner of building is to construct a stone wall up above grade line. The framework from the wall up its stud construction. To get the necessary headroom into the base-

ment the floor joists are started about three feet above the top of the wall which makes the cellar about 7½ feet in the clear. Most houses of this type are heated with a warm air furnace, so that it is necessary to have about 7½ feet of headroom to get the proper slope to the warm air pipes.

The plan of building eight rooms into a house as small as this typifies economy in construction. The two upper rooms are extra, as the space is taken entirely from under the peak of the roof. This arrangement gives three or four or five bedrooms, according to the use made of the two rooms upstairs and the den below.

The regular living rooms, parlor, dining room and kitchen, are laid out in the most approved order. The kitchen is built in such a way as to save steps in the every day work of preparing meals. There is a great deal in designing a kitchen, pantry, cellar stair and back porch in such a way as to condense the housework into small quarters.

Most families like lots of convenient storage space. This design with its two big attic store rooms will surely please.



Arrangement of Cement Plaster House, Size 27 ft. 6 in. by 40 ft.

A Little White Bungalow of Six Rooms

An interesting town house, having four rooms on the first floor and two bedrooms and a sewing room on the second floor, is shown in this design.

This house is 38 by 25 feet on the ground, but the second floor is very much smaller because of the low sloping roof. The wide expanse of roof is relieved both in front and at the rear by the stylish way in which the dormers are built. The front dormer lights the little sewing room and the back dormer window lights the stairway.

The two upstairs bedrooms are well lighted by double windows in the gables.

The front veranda, being a little shorter than the width of the main roof, relieves what would otherwise appear to be an extra wide stretch by chopping out the corners. Still, the porch is sufficiently long for looks and to accommodate all the necessary porch furniture in summer time. A good porch is used about four months of the year in the Middle West.

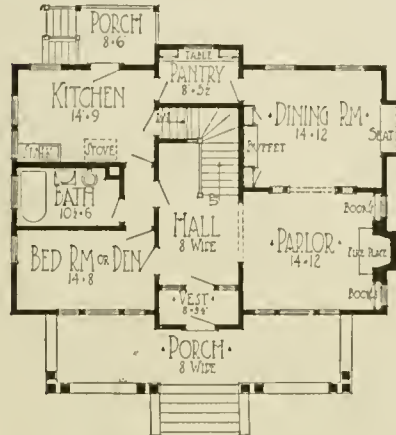
The downstairs plan provides four rooms and a bathroom, besides a large front hall and a very convenient pantry. The parlor and dining room, being connected by an archway, are almost like one room. The parlor is made very attractive by the large chimney and fireplace, with bookshelves in the corners.

There are windows over the bookshelves at considerable height, which, together with the three front windows, light the parlor in a very satisfactory manner.

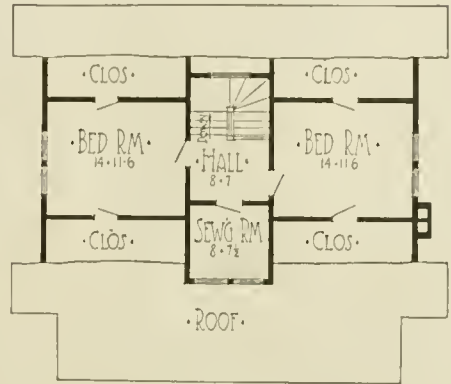
There is a window extension in the dining room which is used for an extra seat. The windows in the dining room

comfortably screened by training a climbing vine in such a way as to reach from the steps around to the pantry window.

This house is intended for a lot of generous width. The appearance of a house depends a great deal upon the



First Floor Plan.



Second Floor Plan.

Arrangement of House. Size 38 by 25 feet.

and parlor together admit light from three sides, which really is quite a study in lighting.

The pantry connects the kitchen and dining room. It is 5½ by 8 feet with a convenient work table in front of a screened and shaded window. Also the back porch is conveniently placed to make a sort of kitchen summer annex. A porch of this kind may be easily and

manner in which it fits the lot. Thirty-eight feet with the overhang means that the house itself is more than 40 feet across.

White is the most satisfactory color to paint this house. A light drab with white trim also looks well, but there should be no yellow ochre in the drab, as it finally shows through and the effect is unsatisfactory.



Clean-cut Cottage Design of Six Rooms. Size 38 by 25 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6661 H.



Beautiful Paneled Dining Room in a Los Angeles Residence. The Lower Two-Thirds of the Dado Consists of Vertical Panels for Which Oak Finish Wall Board May Well be Used. A Horizontal Band Surmounted by a Plate Rail Caps This Part of the Paneling. The Upper Part of the Dado is a Series of Horizontal Panels Filled with Rich Tapestry Paper. A Bracketed Plate Rail Makes a Finish at the Top. The Built-In Buffet is an Interesting Detail, Filling One Side of the Room. A Room Treatment Like This is the Thing Where a Rich Ornamental Effect is Wanted.



Modern Shingle Cement Bungalow of Four Rooms. We can furnish complete set of blue-printed working plans and typewritten specifications, for only \$8.00 per set. Blue-prints consist of basement plan; ground floor plan; roof plan; front, rear, and right and left side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. In ordering, ask for Design No. 6662 H.

Modern Shingle Cement Bungalow

A 4-room bungalow with an outside covering of sized shingles and having a finish of cement stucco above and below, is shown in this design. It is 27 ft. 6 in. by 32 ft. in size, exclusive of the side porch.

Four-room bungalows are very much in demand on the outskirts of towns and cities, where lots are cheaper than in the regular residence sections. Such pretty little houses are taking the place of the rows of small houses, built all alike, that are too often seen in certain sections of our American towns and cities. No one likes to live in a row; but every girl likes to dream of the time when she may keep house in a neat, attractive bungalow of more or less exclusive design that is pretty and attractive from the outside, and cosy within.

Almost all bungalows are better arranged and better built inside than the old-style small houses that we are all familiar with. Another very pleasant feature is the fact that bungalows are not much more expensive, when size and

other improvements are taken into consideration.

There is a slight addition to the cost of building the porch, because the bungalow style of architecture demands a heavy porch with considerable overhang. The size may be no greater

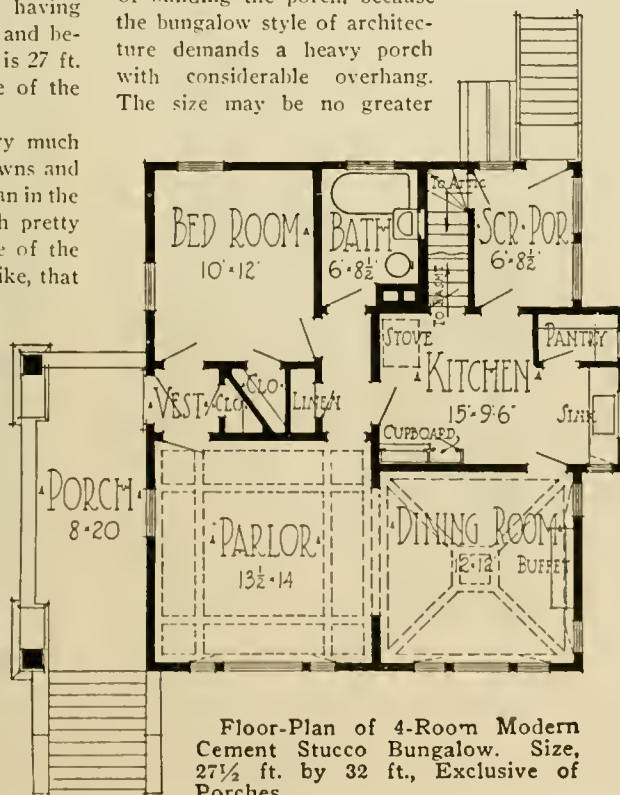
than the old style of gallery that almost invariably formed part of the old-time three- or four-room house; but the bungalow porch is artistic as a general thing.

In this design the belt of sized shingles laid in tile fashion gives a distinctive appearance that is not likely to be duplicated in the immediate vicinity. Also, the concrete basement corresponds with the stucco gables, causing the shingled band to loom out rather conspicuously.

The floor-plan consists of four rooms, although dining room and parlor may be treated as one room, if desired. The kitchen conveniences include the screened porch, giving an opportunity to build a stair leading from the screened porch to the attic, also a stair leading from the kitchen down to the cellar.

A diagonal partition in the clothes closet off the front bedroom makes a cupboard for hanging coats, with a door opening from the front vestibule.

There is a short hall which connects all the rooms of the house, including a linen closet.



Floor-Plan of 4-Room Modern Cement Stucco Bungalow. Size, 27½ ft. by 32 ft., Exclusive of Porches.



Brick Veneered and Stucco House of Nine Rooms. Size 24 by 44 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$9.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6636 H.

Up-to-Date Brick and Stucco House

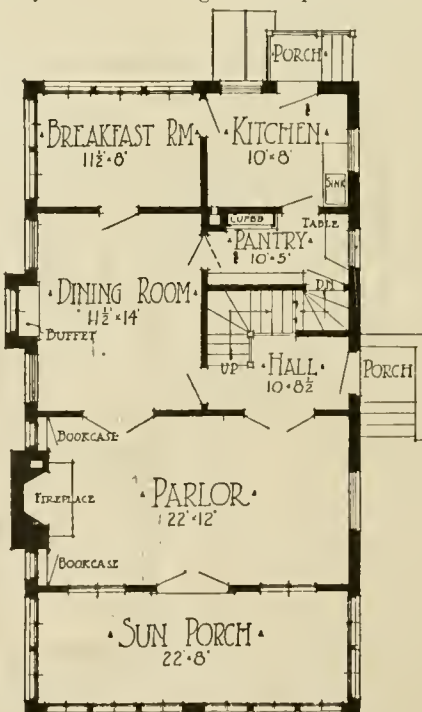
New features in house building are shown in this design. It is 24 feet by 44 feet in size and contains nine rooms, counting the sun parlor and the sleeping porch as rooms. A side entrance in the middle of the left wall works into a plan of this proportion to good advantage. It offers an opportunity to build a handsome open stairway that may be entirely shut off from the other rooms in the house. One objection to open stairways in modern house construction is that they take up considerable room. Very often they create a draught that is more or less unpleasant.

There is very little waste room in this hallway, either upstairs or down. It is conveniently arranged on both floors so as to reach the different rooms without any unnecessary long passages.

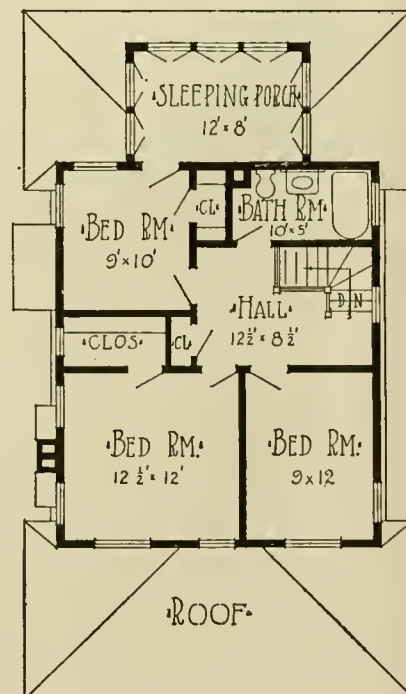
There are many interesting features in regard to construction which are shown in detail on the three pages following. While the house is unusual in many respects, it will be noticed that there are no difficult details. The object is to use stock patterns of millwork that are carried regularly by lumbermen. These stock patterns are as attractive

as special designs that cause delay and run into extra expense. In fact, the object in showing these patterns so

carefully is to call especial attention to the combinations of stock patterns that work out so nicely in the trim.



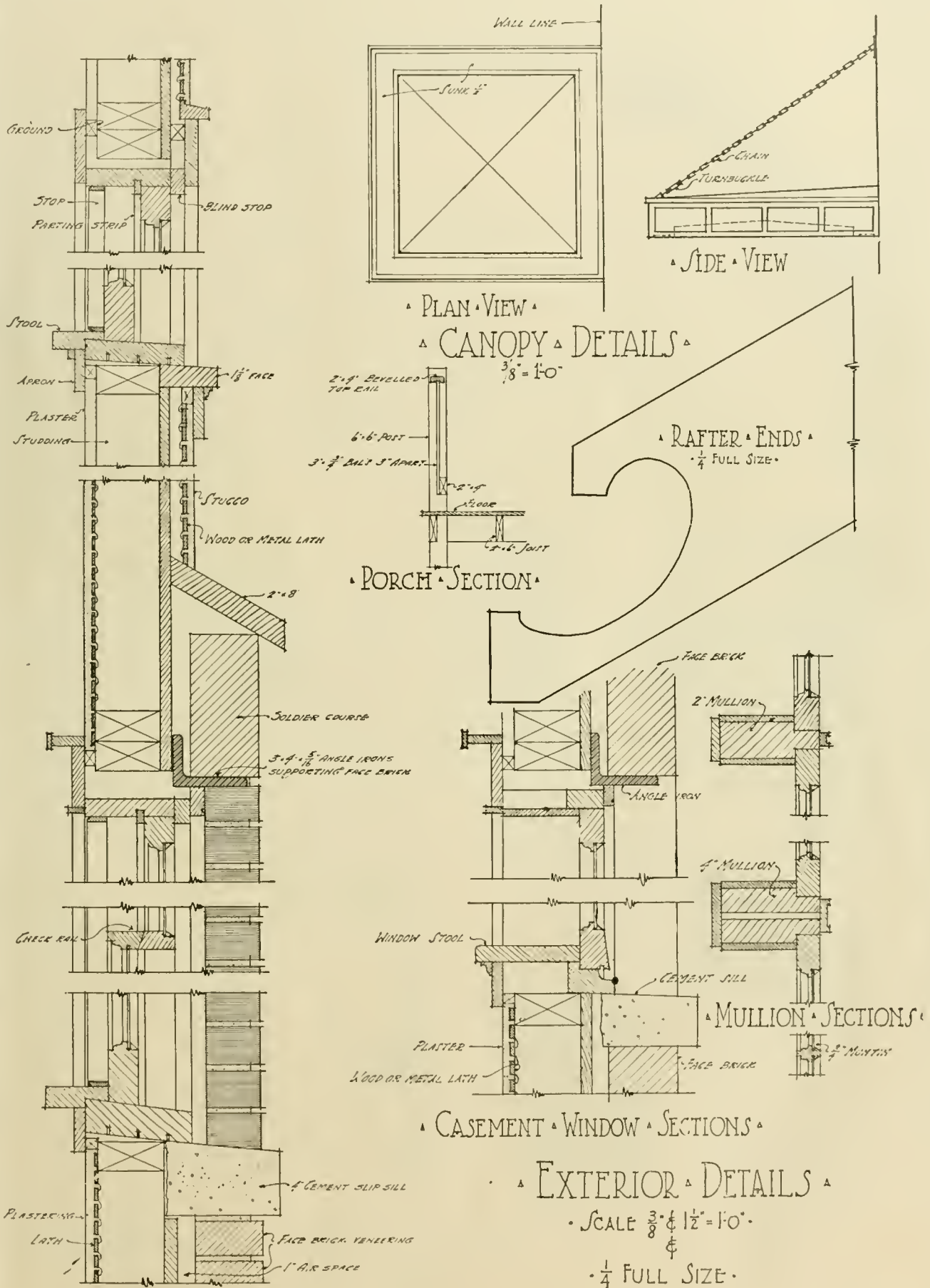
First Floor Plan.

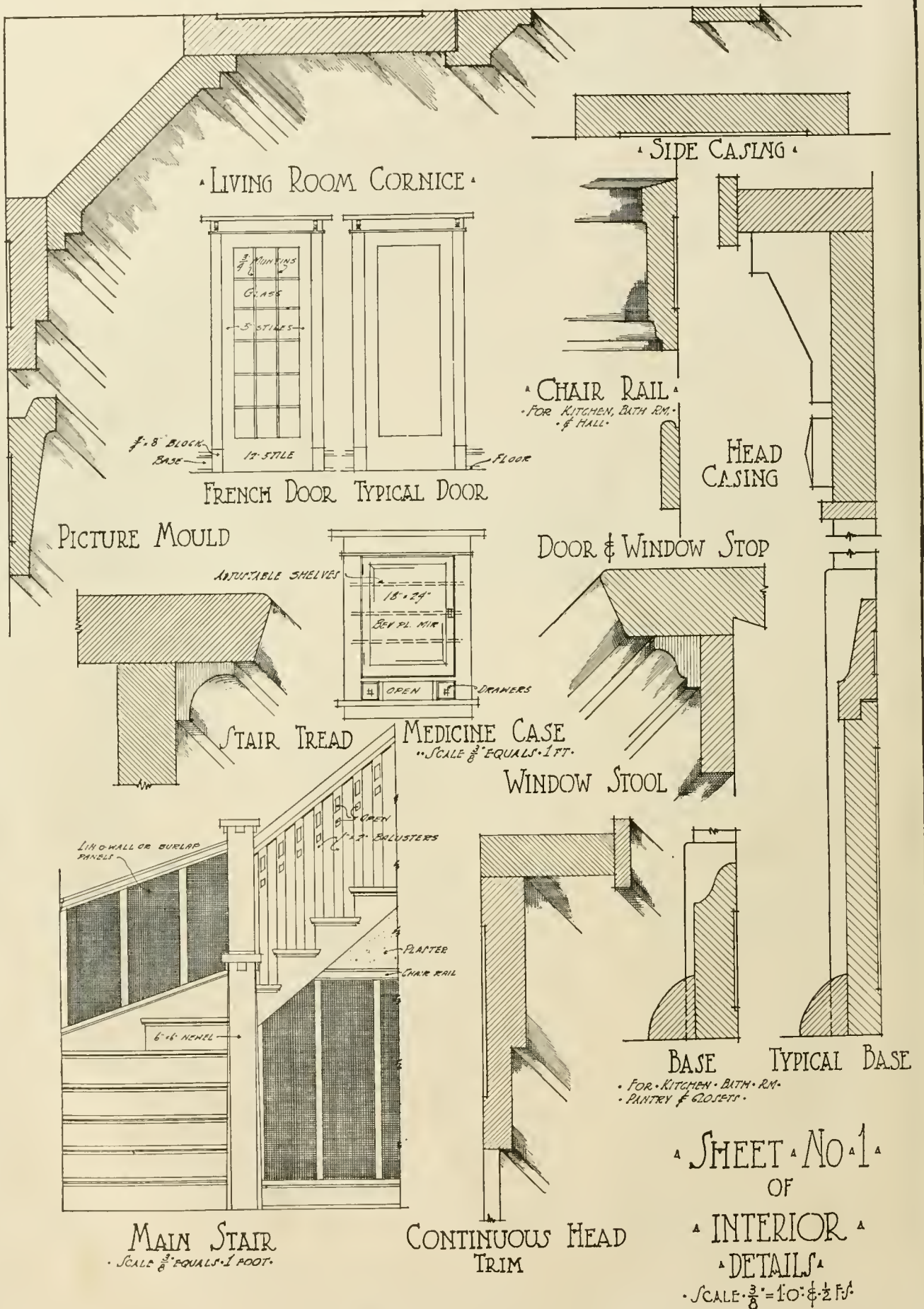


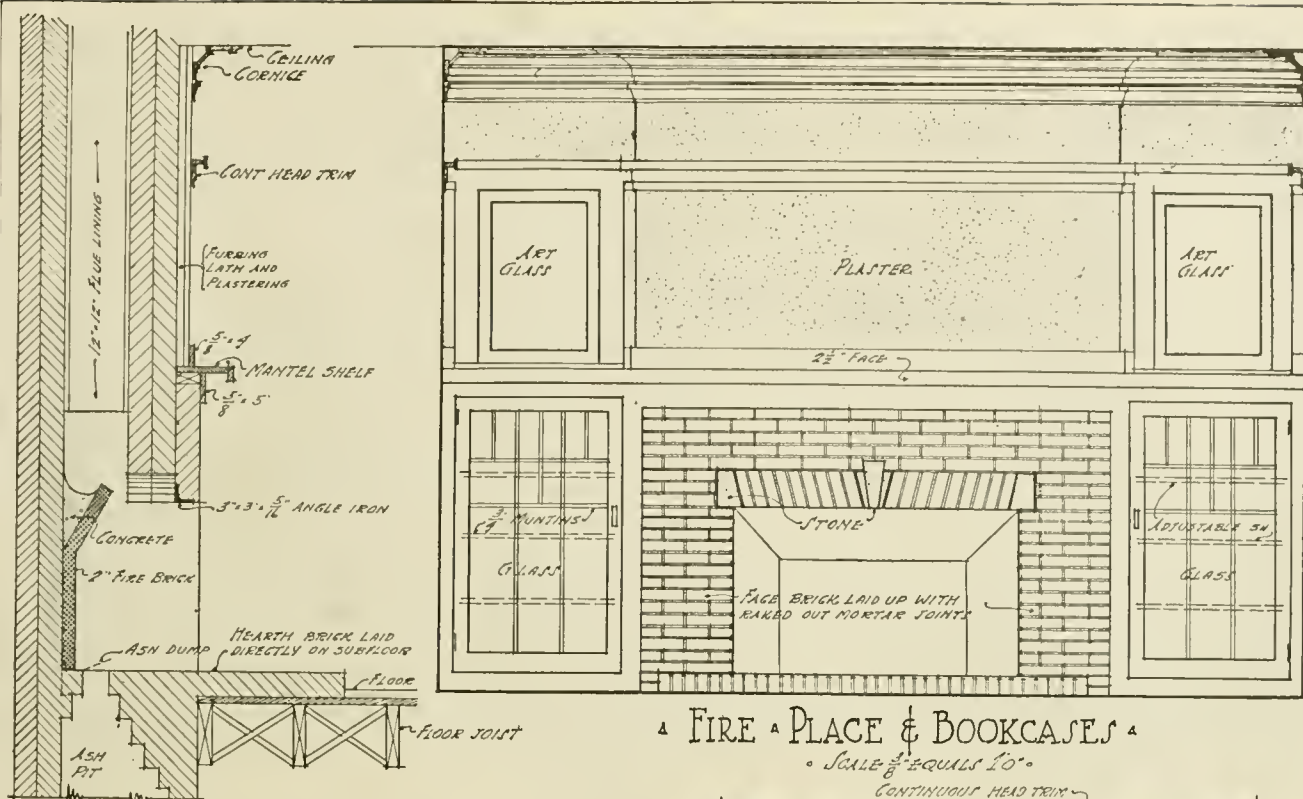
Second Floor Plan.

Arrangement of House, Size 24 by 44 feet.

For Interior and Construction Details of this House see Next Three Pages.



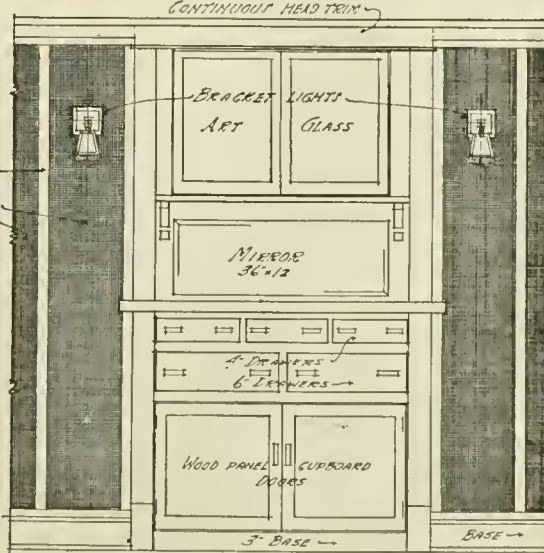
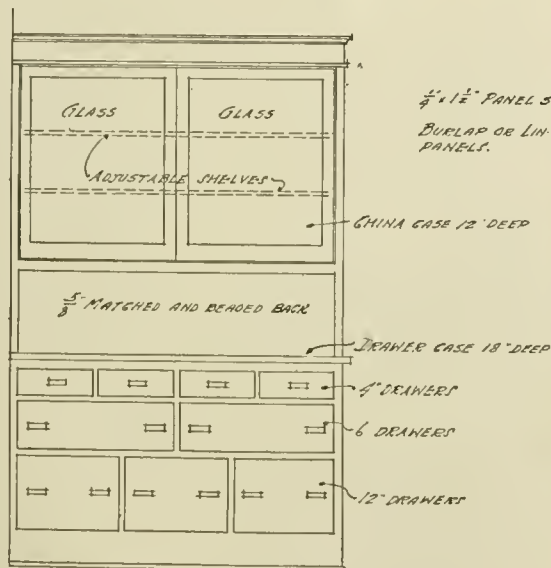




▲ FIRE PLACE & BOOKCASES ▲

• SCALE $\frac{1}{8}$ " = 1'0"

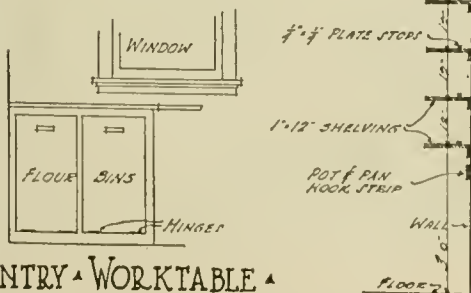
▲ SECTION ▲ THRU ▲ FIRE ▲ PLACE ▲



▲ DINING ROOM BUFFET ▲

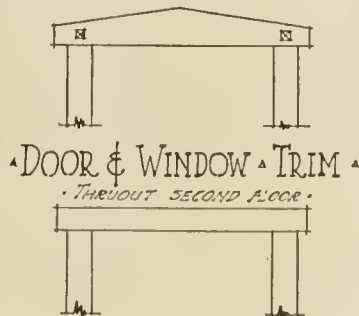
• SCALE $\frac{1}{8}$ " = 1'0"

PANTRY CUPBOARD
• $\frac{1}{8}$ " = 1'0"



▲ PANTRY WORKTABLE ▲
• $\frac{1}{8}$ " SCALE

▲ PANTRY SHELVEING ▲



▲ DOOR & WINDOW TRIM ▲

▲ DOOR TRIM ▲
• IN CLOTHES CLOS.

▲ SHEET No. 2 ▲
▲ OF ▲
▲ INTERIOR ▲
▲ DETAILS ▲
• SCALE $\frac{1}{8}$ " = 1'0"

Seven Room Story-and-a-Half House

A house with four rooms on the first floor and three rooms close up under the roof, is shown in this design. In size, it is 27 feet 6 inches by 40 feet 6 inches on the ground, and is built with the slant of the roof towards the street.

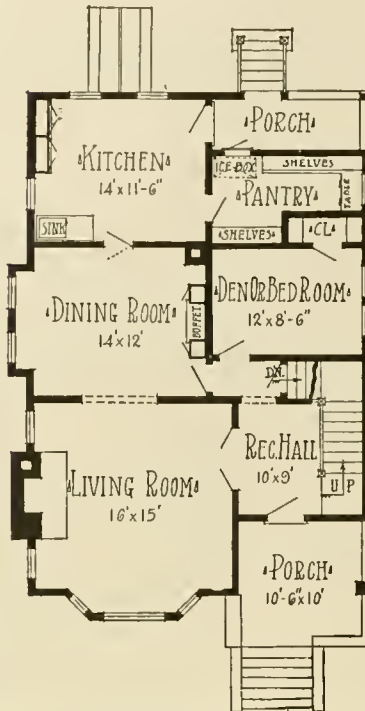
There is an outside entrance at the back of the cellar, which comes in handy on washdays, also for other work that is done in the cellar, such as attending to the furnace and getting in the coal. Outside cellar ways add very little to the expense of a house, and are greatly appreciated at times.

The first floor plan provides for large living rooms on the sunny side of the house, while the other side is taken up with porches, reception hall, stairway, pantry and a room that may be used either as a bedroom, den or office. It makes a roomy house that is light, airy and comfortable at all seasons of the year.

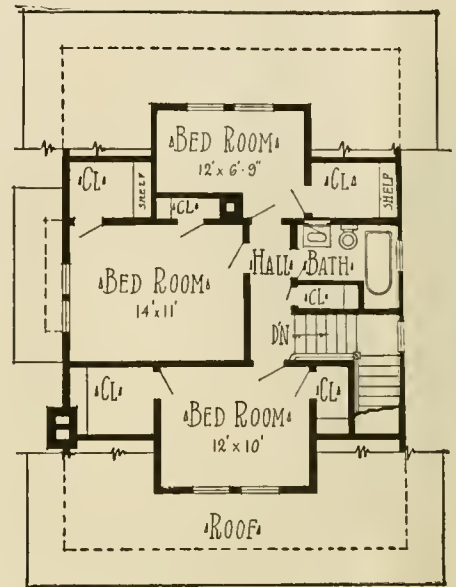
There is a fine kitchen in the rear of this house 14 by 11 feet 6 inches, which is lighted by three good sized windows. The kitchen is supposed to

be finished in light wood or painted white. White woodwork and white walls and ceilings, together with

white enamel sink and other kitchen furniture look clean and inviting. The white finish seems to go naturally with the large windows and other modern improvements.



First Floor.



Second Floor.

Arrangement of House, Size 27 feet 6 inches by 40 feet 6 inches.



Seven-room shingled house. Size 27 feet 6 inches by 40 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6664 H.



Handsome Five-room Bungalow of Shingles and Cobble Stones. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6665 H.

Bungalow with Cobblestone Trim

Odd in trim, but exceptionally neat and pleasing in appearance, is this beautiful bungalow listed as Design No. 666511. It is 25 feet by 43 feet 6 inches in size.

A bungalow which has an elegant appearance from the street is much sought after by prospective builders. This design may be built on a narrow lot, because it is only 25 feet wide on the ground. Of course, allowance must be made for the dining room projection, also the box window in the front bedroom, as well as the wide overhang of the roof.

Bungalows all require wide cornice projections which really count in proportioning the house to the lot more than the foundation walls.

Usually all town lots have considerable depth. It is seldom that a builder is called upon to restrict operations at the rear of a house, except to shut off expenses. It often happens that a property is ruined by selecting a house too wide for the lot. Such a misfit also tends to injure the property on both sides. The selecting of a plan and the fitting of the plan to the lot requires careful study.

When this bungalow is built in the North it has a good foundation wall, and the construction above the wall is good enough to keep the cold out in winter and the heat out in summer.

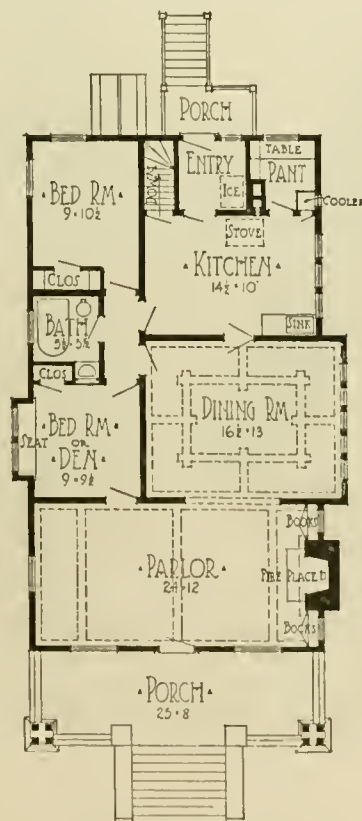
This plan provides for especial comfort in the large front parlor, which is 24 by 12 feet, and is well lighted by three large windows and two high windows at the sides of the chimney over

the bookcases. This room has a beam ceiling which comprises two large panels and two smaller panels. There also is a beam ceiling in the dining room constructed of the same kind of wood with similar mouldings, but the design is different. Usually where two rooms are connected by a wide doorway the woodwork is similar in both rooms.

The two bedrooms are small, but conveniently arranged with a bathroom between. There is an extra door opening from the parlor into the front bedroom, built with the expectation that this room may be wanted for a den instead of a bedroom. It often happens that only one bedroom is required in a bungalow. The extension window in this front bedroom may be used to hold a folding bed. There is a good imitation of a davenport in the daytime that unfolds for a bed at night. In this way, the room may be made to serve for a den and for a spare bedroom as required.

There is a good deal to the workshop end of this little bungalow which comprises the back entry, kitchen, pantry and stairway to the cellar.

The best house plans provide for some kind of an outside entrance to the cellar. In this plan there is an outside doorway with outside concrete steps protected by side walls and a trap door built in pair. A trap door is much cheaper than to cover the steps with a regular roof and it answers the same purpose.



Floor Plan of Bungalow.
Size 25 by 43 feet 6 inches.

Shingled Bungalow with Paneled Gable

A neat and low-cost bungalow containing five rooms is shown in the accompanying illustrations. It is 30 feet 6 inches by 40 feet 6 inches on the ground and has a liberal overhang. It is built gable end to the street, and the roof extends over in front to cover the veranda and the opposite gable covers the rear porch.

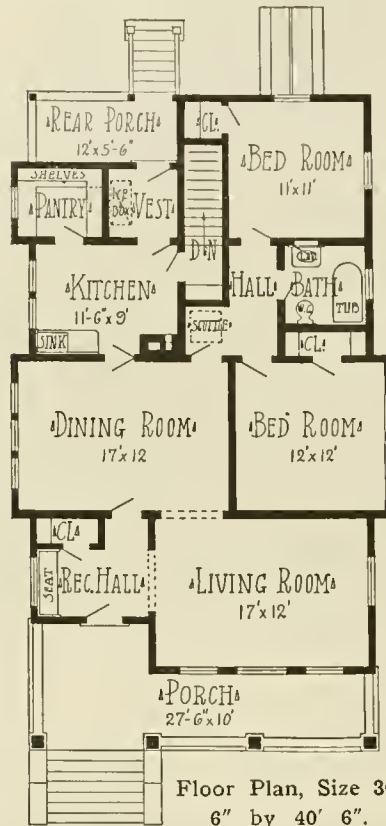
The construction is of concrete or stone wall up to the surface of the ground and the usual framework for the superstructure. The main floor is set up well above the ground by elevating the joists several feet above the top of the cellar wall. The upper part of the basement above the wall is boarded with sheathing, and then a course of building paper, then the outside heavy boarding.

A break is made on a level with the floor joists and the structure from here up to the plates is similar, except that shingles are used for weather covering for the sides of the house proper, as well as on the roof.

The gables are distinguished by a panel finish of stucco over metal lath. The cornice is wide and the gable projection is given a heavy appearance by using an extra deep fascia, supported by brackets. With an overhang as wide as

this, such a support is necessary to prevent sagging.

The floor plan of this interesting little bungalow shows three living rooms, two



bedrooms and a bathroom, with a good pantry and a few extras, such as reception hall, with a good coat closet and a splendid pantry and rear vestibule, which affords considerable additional storage.

The one permanent objection to a bungalow, the stock in trade of all objectors, is lack of closet room. This plan overcomes the difficulty on the main floor without resorting to special cupboards in the basement. However, a scuttle hole is provided in the rear hall, so that some use may be made of the attic for storage purposes if necessary.

There is a good cellar way going down from the kitchen, which also has a good storage cupboard to the right of the door as you enter from the kitchen.

There is a back entrance to the cellar which is covered with a sloping door for shedding rain, and which protects the outside concrete steps. Usually it pays to add a little extra expense to a cellar under a bungalow, because more use is made of a bungalow cellar than a similar cellar under a two story house. An outside cellar way is a great convenience on washdays and when tending the furnace. It is a good ventilator at all times, because any of the different doors may be left partly open to admit much or little air as needed according to weather conditions.



Shingle Covered Bungalow, 30 feet 6 inches by 40 feet 6 inches, exclusive of front porch. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6666 H.



Large country home 38 by 39 feet in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue prints consist of basement plan; roof plan; first floor plan; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6667 H.

Elegant Modern Country House

An elegant appearing house is represented in this design. It is 38 by 39 feet in size, on the ground, exclusive of the front veranda. The extra fine appearance is due partly to the manner in which the veranda is built. The heavy brick corner piers and the mason work which forms the ends and the sides of the veranda give the house an exclusive and expensive character that is calculated to excite envy and jealousy amongst the neighbors. The proportions of the large corner abutments, the expanse of the truss that reaches clear across the house from one corner to the other, the wide expanse of the roof and the pitch of the roof, together with the wide spreading front dormer—all combine to give the house an air of elegance that is very striking.

The construction is solid throughout. Commencing with the cellar walls, which are built with wide footings, the whole foundation is solid. The center piers in a house of this size are required to support considerable weight and to carry the strain for a good many years. It often happens that the importance of center piers is not thoroughly appreciated by either the builders or the owners of house property. A great many houses are built with

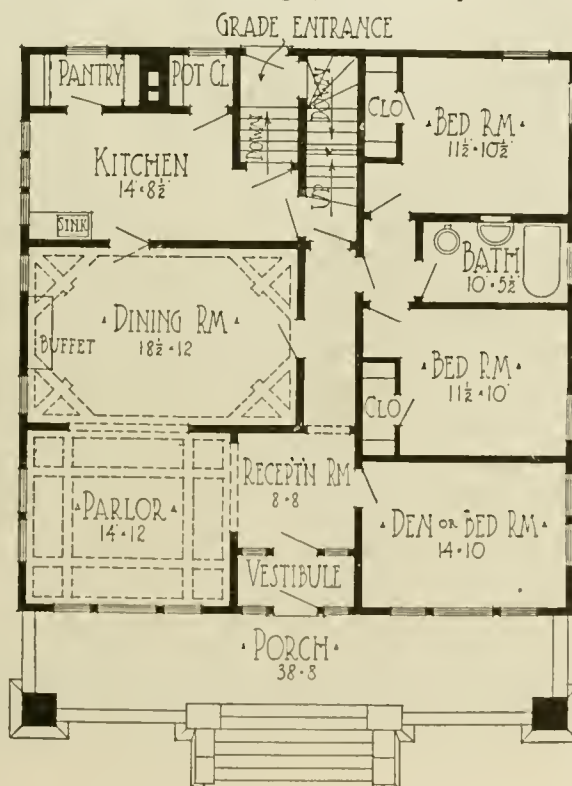
small concrete or stone center piers without footings. These piers are topped with wooden posts as light as 6x6 or 6x8 inches. A six-inch post is insufficient for any house big enough to accommodate an American family.

When it comes to building a house of this size and weight, the center piers

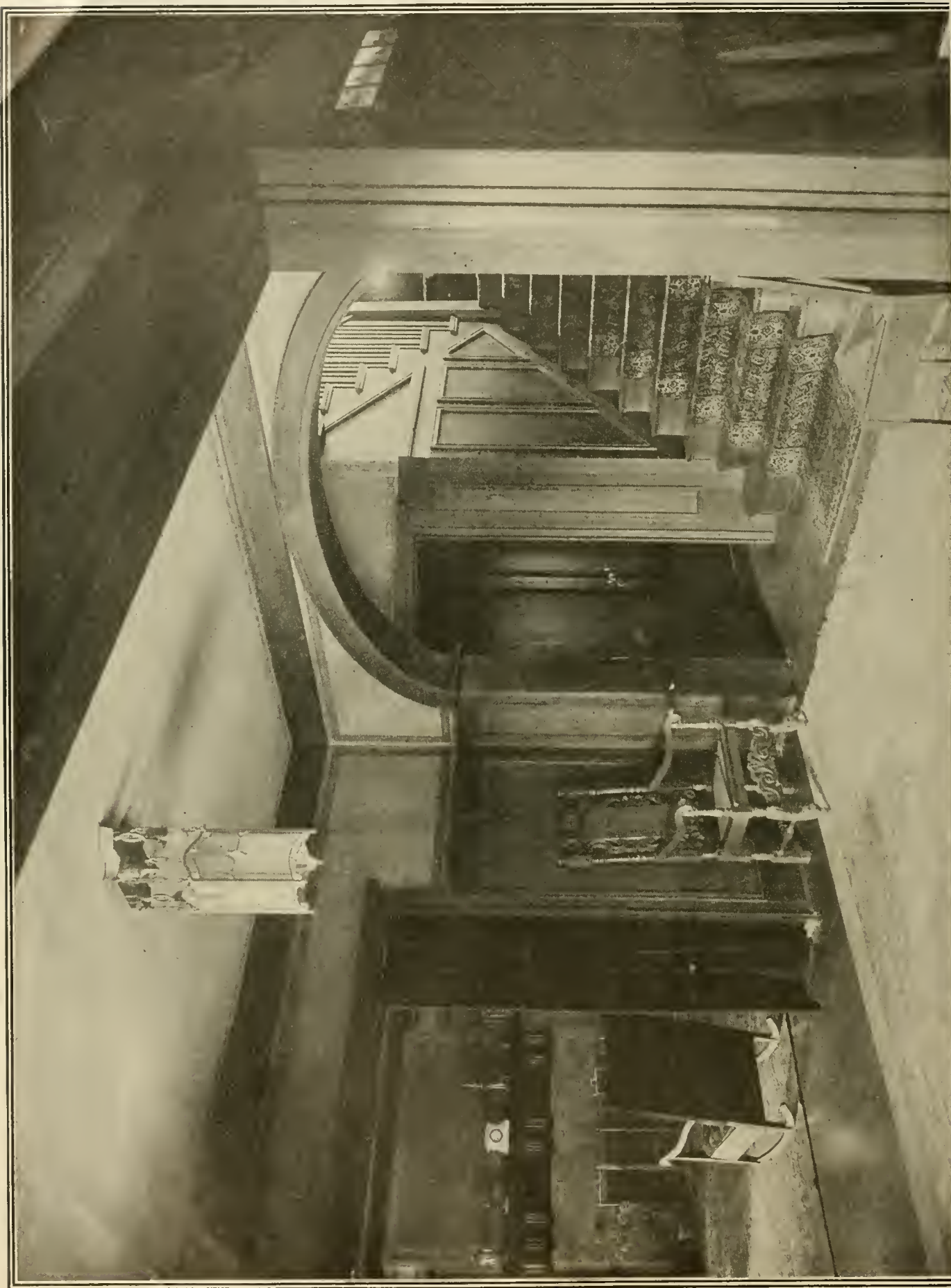
should be placed not more than 12 feet apart, and should have wide footings. To save room above the cellar floor the piers may taper to a size little larger than the permanent posts, but the footings should reach down into the ground where the earth is solid and have sufficient spread to prevent the possibility of settling.

Another reason for the settling of floors in the middle of a house is the indentation of the tops of the posts into the girders. The shrinkage of green girders and floor joists may have a further effect. However, the same joist shrinkage applies to the other ends of the joists, so that figuring the shrinkage of the joists alone, the floors would settle evenly so far as the joists are concerned. But the shrinkage of girders and the indentation of the upper ends of the supporting posts into the bottoms of the girders still remains as a factor and this point too often is forgotten or overlooked during the hurry.

The floor plan calls for three bedrooms and a bathroom, which occupy all of one side of the house. On the sunny side we have parlor, dining room, and kitchen, with the smaller rooms necessary in a house of this size. An interesting beam ceiling decoration is shown in dotted lines on the floor plan.



Floor Plan. Size 38 by 39 feet.



The Front Hall is the Most Important of Any Fine Residence. This One Unites Dignity, Hospitality, and Attractiveness. It is not Skimped nor Cramped; Wood Paneled Wainscot is Used; the Decorations are Warm Yet Subdued. A Unique Feature is the Placing of the Stairway in an Alcove by Itself.



Substantial Hip-Roof Bungalow of four rooms. Size 32 by 33 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6668 H.

Spacious Four-Room Bungalow

A neat, comfortable, four-room cottage is shown in this design. It is 32 by 36 feet on the ground exclusive of the front porch. It is covered by a hip roof with a gable end extension to cover the front porch. Building the front porch and protecting it by a gable end roof in this way gives the building a substantial and distinctive appearance. Another good point also is the use of considerable concrete in and about the front porch.

The floor plan shows three living rooms and one bedroom or two living rooms and two bedrooms, according to the requirements of the family. There is a fine front corner room with a fireplace and built-in bookcases made in living room style. On one side of this room is a blank wall intended for the placing of a large davenport big enough to sleep on. Furnished in this way, it is easy to change the room into a bedroom on short notice, because the bath room naturally belongs between the two bedrooms.

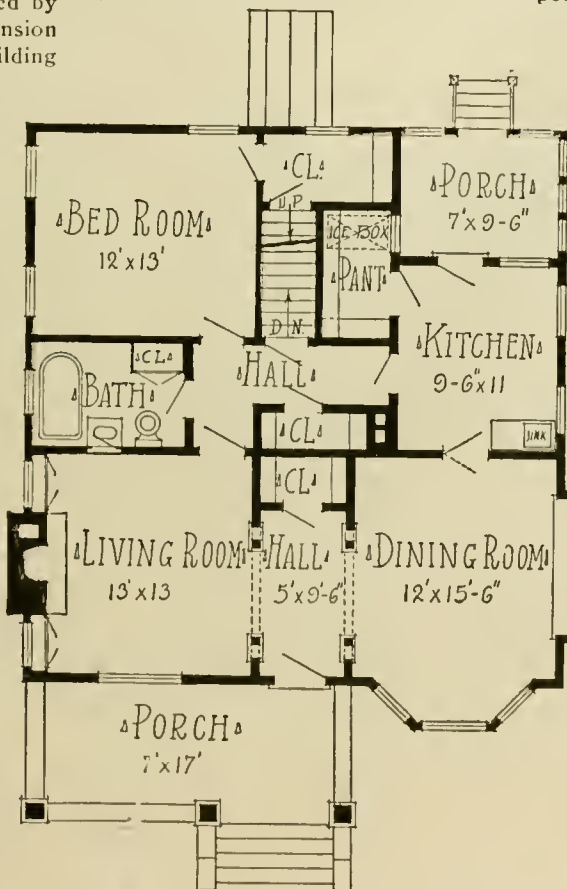
The kitchen is very nicely arranged between the dining room and the rear porch. The dining room has an extension window recess, which is eight feet long. There is a buffet provided for this space. The rear porch is fitted with windows and screens, so

that it may be used for a summer dining room, if so desired. Plenty of glass cupboards are provided; and there are three extra big clothes closets—no chance to find fault with this bungalow on that score.

The pantry is 4 feet by 7 feet 6 inches. A case of drawers is built into one end and a refrigerator is placed in the other end opposite a window which opens into the rear porch. The stairway to the cellar goes down from the rear hall.

A cottage house like this is very pleasant in summer, and it is so small and compactly built that it may be easily heated in winter. There are two chimneys, one for the fireplace in the living room and one for the kitchen range. The furnace in the basement may smoke into either chimney.

The manner of building houses of this order follows the simplest lines of architecture. There is a good cellar with considerable height of ceiling for two reasons. It is necessary to have the height to furnish sufficient headroom for a warm air furnace. Also people living in cottage houses like to have the living room floor set well up above the ground. It affords a better view, and a feeling of security; and a great many people think the house is dryer for having considerable room between the floor and the ground. In this respect a great deal depends on the character of the land. Usually where the streets are undermined with a sewer system the ground is dry enough. This bungalow is O.K.



Floor Plan of Bungalow. Size 32 by 33 feet.



Five-room Gable Roof Bungalow, with distinctive porch. Size 30 by 43 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6670 H.

Six Gable Bungalow

A bungalow built with six gables is shown in this design. It is 25 feet by 43 feet in size, but the center part being 30 feet in width calls for a gable roof extension to project the dining room five feet beyond the regular house line. The advantage of this extension is to secure a good sized dining room with abundance of light without adding a great deal to the cost of the bungalow. This extension is one of the main features in this gable style of roof.

One object in building a bungalow is to have a cozy dwelling a little different from the ordinary, and this plan is a pleasant variation from the usual bungalow style. There is something very artistic about the appearance of a heavy front porch. Large square columns supporting a roof having two gables of different sizes illustrates another way of avoiding sameness in building houses.

It is a study in the first place to design attractive dwellings for small families, and it requires careful selection on the part of the builders to fit such designs into the special environments that they are intended to occupy.

There are five rooms in this bungalow besides the bathroom and pantry. The parlor being 25 by 12 feet in size makes a very attractive room that is especially well liked by everyone.

There are two bedrooms and a bathroom on one side of the hallway, while the kitchen, the large pantry and dining room are on the opposite or sunny side

of the house. The sizes of all rooms are large for a bungalow and the plan is especially attractive.

There are so many windows that the house is splendidly well lighted in spite of the wide overhang of the roof.

There are beam ceilings in the living

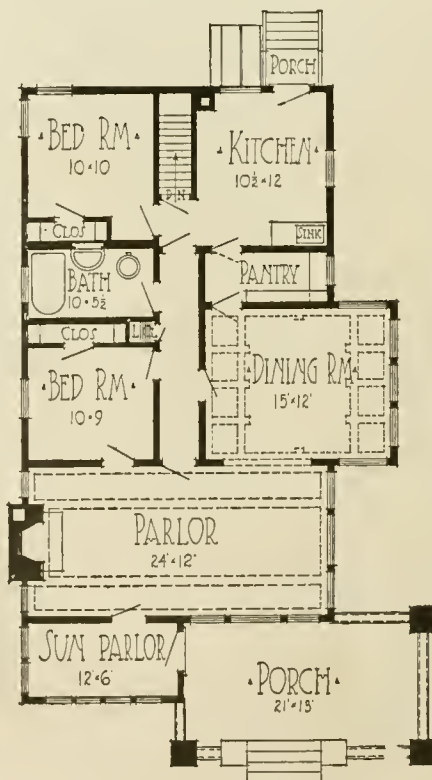
room and dining room. The living and dining room are connected by a rather wide archway, so it is natural to finish the two rooms very much alike. There are some differences in the beam ceilings, and the dining room has a plate rail, but the color of the woodwork and the general design is the same in both rooms.

The basement ceiling is 7 feet 6 inches in height to give sufficient headroom for furnace pipes to work properly. Also this height of ceiling permits the use of larger cellar windows, which are appreciated in the laundry. There is an outside entrance to the laundry room with easy steps so that it is unnecessary to pass through the kitchen on washdays or when tending the furnace in the winter time.

Housekeepers in bungalows usually are a little more proud of their kitchens than old-fashioned housekeepers who have so much house to take care of that some of the dark corners have to be neglected. A modern bungalow kitchen receives just as careful attention as any other part of the house.

The woodwork may be less expensive, but it is designed and built in with just as much care as the dining room or parlor. Kitchen designs are plain.

For a bungalow this plan provides more than the usual number of clothes closets and similar conveniences. Examining the plan will convince any builder that this little house possesses many virtues that are well worth careful consideration.



Floor Plan of Bungalow.
Size 30 by 43 feet.

Gable End Cottage House

A cottage house containing five rooms is illustrated in design No. 666911. It is well set up from the ground by using $3\frac{1}{2}$ feet of false truss work above the wall. This style of building is very much resorted to in localities where cellar wall material is scarce or expensive.

In some sections where gravel or stone is scarce and freight rates are high, cellar walls are made of hard-burned brick. Brick for this purpose should be laid in cement mortar and plastered on the outside with a thin coating of waterproofed cement plaster. Bricks are porous and will absorb moisture like a sponge. Brick cellar walls that are not properly laid up are not suitable for house use. Dampness in a house cellar often means sickness for the family.

This style of building also is resorted to in certain sections of cities where the contour of the land requires that sewers shall be near the surface of the ground. Again in the warmer sections of the country cellars are not so much needed as basements. People living in a one-story house find more use for a basement than when the house proper contains more room. The basement, if built well and is mostly above ground, may be made to serve many purposes in economical household man-

agement. It is a useful storage place.

The plan of the rooms in this house is somewhat on the bungalow order. The

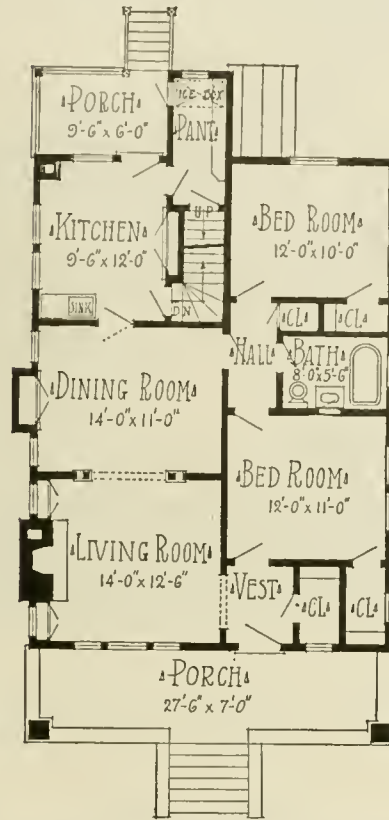
two bedrooms and the bathroom are on the short side of the house, and the three living rooms on the sunny side work to good advantage.

The wing at the back of the main structure makes room for the bedroom, kitchen and rear porch. There is a stairway going down to the cellar from the little back hall that has a convenient entrance from the kitchen. Over this there is a stair leading from the kitchen up to the attic. This is a great convenience.

The rear end of the house is nicely planned to save steps while doing the house work. The kitchen, pantry and rear porch with the cellar stair all "in a nut shell" are intended to save steps. Also there is splendid storage for green groceries and other household supplies in the basement, cellar stair, little back hall, and pantry.

The business end of this little house has received very careful attention. The rear porch being 9 feet 6 inches by 6 feet is large enough for a very comfortable summer work room, and it is often used for that purpose.

There is an outside cellar entrance at the back which is a great convenience in a house built in this way. It makes it possible to turn the basement into a summer kitchen or other work room, according to the necessities of the family.



Floor Plan. Size 27 feet 6 inches by 37 feet 6 inches.



Gable End Cottage house of five rooms. Size 27 feet 6 inches by 37 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6669 H.



Modern Five-Room Bungalow with Concrete Porch and Chimney. We can furnish complete set of blue-printed working plans and typewritten specifications, for only \$8.00 per set. Blue-prints consist of basement plan; ground-floor plan; roof plan; front, rear, and right and left side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. In ordering, ask for Design No. 6680 H.

Five-Room Bungalow with Concrete Porch

Most people strive to build larger homes than they can afford, even going into debt, before the house is complete, in order to have it a little better than they might just get along with for a while. True, it is harder to plan a small home than to plan a larger one, to meet the requirements of the same family; and the problem of combining coziness and comfort with ample convenience is one of real difficulty. Yet it is a fact that the average person has an exaggerated idea as to how much room he actually needs for living purposes.

The bungalow design here illustrated is offered as a solution of this little-and-yet-big house problem. It will give a very well arranged, economical home, embodying the most advanced modern architectural ideals, and spacious enough to accommodate the average small family.

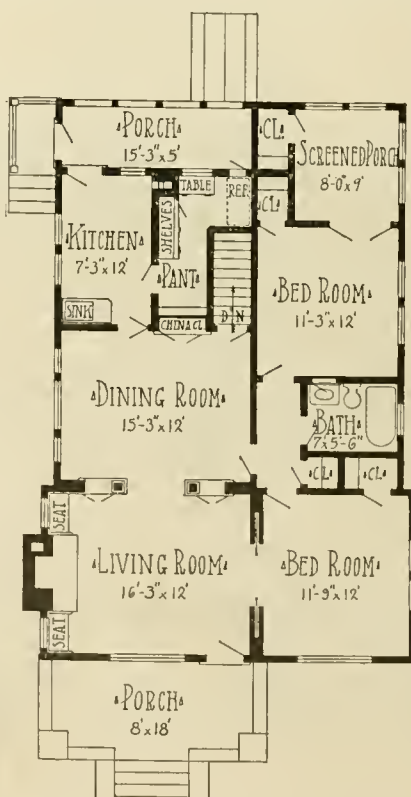
The living room is the largest room in the house. Sitting here with two or three friends, the actual space taken up, together with the usual furniture, is not large; but when the dining room, as it is here, is openly connected with the living room, the effect of distance relieves these rooms from appearing at all cramped or stuffy. In modern dining rooms, the size of the table, together

with the fact that a passage must be maintained around the outside of the seated guests, establishes a 10-ft. minimum for the least dimension. Here we have a 12-ft. depth, while the longer

dimension, 15 ft. 3 in., permits extension of the table on special occasions.

The two bedrooms, with bathroom between, are on right-hand side of house, connected by a hallway opening off dining room. Each has an ample clothes closet. Rear bedroom opens onto large screened porch, now a much desired feature, with closet of its own. A special linen closet is provided off hallway, next bathroom.

The living room, entered directly from front porch, connects through sliding doors with front bedroom, and through a colonnaded opening flanked by low cupboards or bookcases, with the dining room. At its left end, is a large fireplace, with built-in seats on each side, providing genial warmth on chilly days and excellent ventilation at all times. In rear wall of dining room is a built-in china closet, to right of which opens door to basement stairway, and, to left, a swinging door opening into or from kitchen. To right of kitchen lies a large pantry with shelves, cabinet, drawers, table, and refrigerator, the last-named being supplied with ice directly from back porch. This porch, giving access to kitchen from the rear, extends more than half way across the house. It is enclosed by glass or screens, and is entered from raised landing reached by a small flight of steps at rear left corner of house. Sloping bulkhead doors at rear, over areaway, cover steps to outside basement entrance.



Floor-Plan of 5-Room Bungalow with Concrete Porch. Size, 30 ft. by 45 ft., Exclusive of Front Porch.

Bungalow with Cement Plaster Pillars

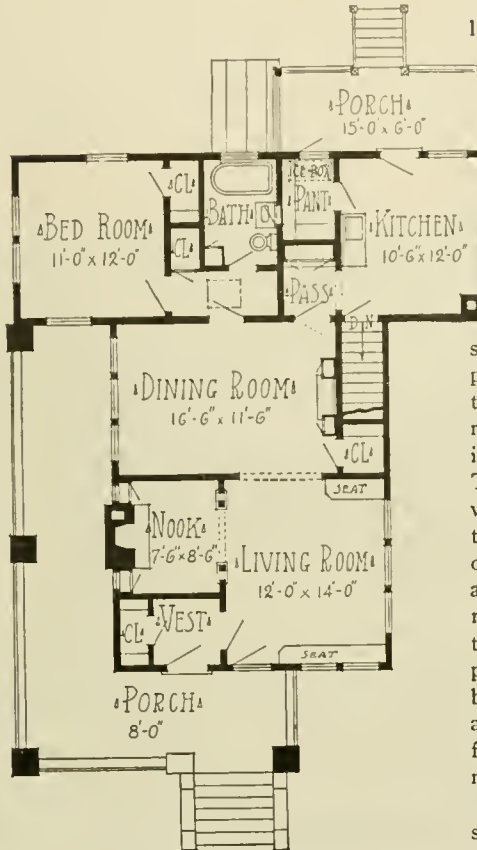
A rather odd looking, but very attractive bungalow, is shown in this design. It is 36 feet in width through the rear end; but the front part is only 21 feet wide—which reduces the size to small dimensions. However, it looks quite large because of the front porch and side veranda.

There are situations where unusual designs look especially well provided they are gotten up with regard to symmetrical proportions with artistic blending of shades or colors. In this particular design the large, square porch columns merge very nicely into the general color scheme. The woodwork is painted drab, slightly darker than the stucco columns. The extra wide projection of cornice is absolutely necessary on a bungalow of this design to give it the proper effect.

The floor plan includes a very pleasant living room in front which opens into a fireplace nook. This cozy nook is supposed to be furnished with lounges and lots of pillows in real bungalow fashion. The wide opening between the living room and the nook connects rather than divides the two rooms.

A great convenience is the vestibule with the large coat closet, convenient to the front entrance. There is a wide

opening between the living room and the dining room, and for this reason



Floor Plan of Bungalow.
Size 36 feet by 39 feet 6 inches.

the woodwork of the front part of the house is all designed to match.

The dining room has three full length French windows looking out across through the side veranda in the direction of the most interesting view. These are thrown wide open in warm weather, making this big side porch a part of the house.

The bedroom and bathroom are situated in the back part of the house opposite the kitchen. Between the kitchen and bathroom are several closets and cupboards which are appreciated by all housekeepers. The stairway to the cellar is conveniently placed for running back and forth between the kitchen and cellar store room. The rear porch is almost as interesting as the large porch in front. The idea is to build a bungalow that will be interesting and pleasant where the climate provides several months of warm weather. So much porch and veranda space is a great inducement to live outdoors a good deal of the time. Everybody likes a porch parlor in the summer time. It may be fitted with rugs, a swinging seat, and other porch furniture arranged for comfort in the daytime and at night.

A little bungalow of this kind is supposed to be set well up above the surface of the ground so that an outside cellar entrance is easily made.



Bungalow for outdoor living. Size 36 by 39 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6671 H.

Hollow Tile Residence, Stucco Coated

A thoroughly well built residence, which embodies a number of interesting features, is shown in this design. It is built of hollow structured tile, coated on the outside with cement stucco, applied directly to the tile walls.

The detail drawings on the following

is constructed very much the same as the floors.

The basement wall starts with footings 2 feet wide and 12 inches deep. The wall itself is 12 inches in thickness, reaching above grade level. Twelve-inch tile is used up to the level of the first floor. From there up to the plate 8-inch tiles are used.

The interior details of woodwork are given on another page. It will be noticed that the woodwork is rather massive, but plain and simple in design. The shoe mould is fastened to the floor only—a detail often done wrong.

The floor plan shows a good sized sun parlor, a fine living room, a very pleasant dining room and a practical



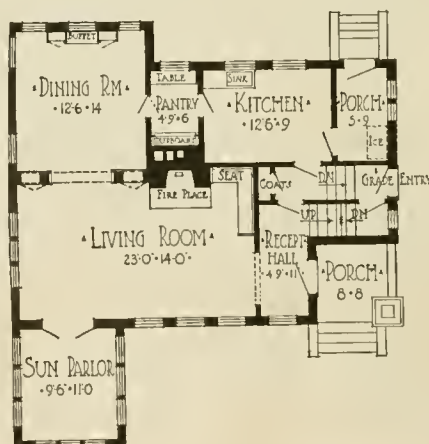
Hollow Tile, Stucco Covered Residence. Size 38 feet by 25 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$12.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6675 H.

page show two ways of constructing the floors and ceilings. One uses 2 by 10-inch wooden joists for the main floor and 2 by 6-inch joists for the upper floor, with wooden rafters in the usual way covered by roof boards, laid close above the cornice and with matched and beaded boards as a finish between the lower ends of the rafters.

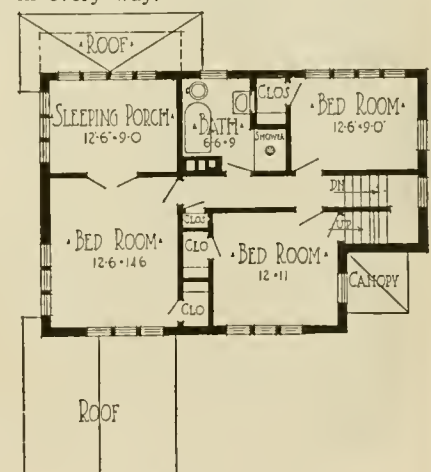
The other details show fireproof construction for both floors and for the roof, using reinforced concrete and hollow tiles. The reinforcing steel and the tiles are placed on wooden forms, and the concrete is poured around them. Do not remove the forms till the concrete is thoroughly hardened. The finish floor of hard wood is laid on 2 by 3-inch beveled sleepers embedded in the upper cinder-concrete layer. This manner of construction leaves nothing of the house to burn but the thin flooring, the doors and other inside finish. The fireproof roof

The wall tiles forming the lintels over all doors and window openings are filled with reinforced concrete to give them strength and solidity. A bearing of 8 inches is made for each lintel support.

kitchen on the first floor. The second floor contains three bedrooms and a sleeping porch with an extra fine bathroom. The design is thoroughly modern in every way.



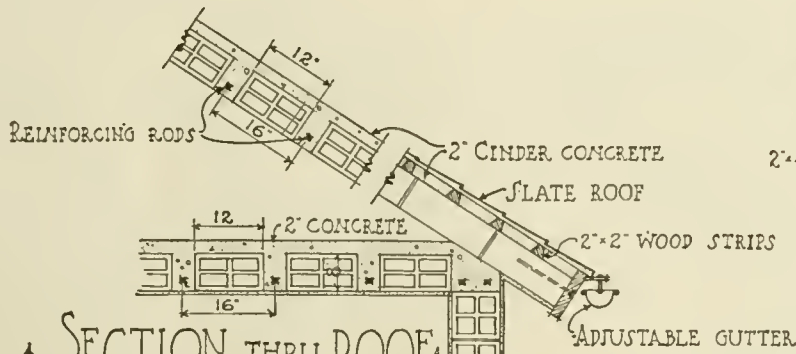
First Floor Plan.



Second Floor Plan.

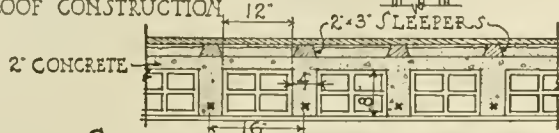
Arrangement of House, Size 38 by 25 ft. 6 in.

For Interior and Construction Details of this House see Next Two Pages.



SECTION THRU ROOF

SHOWING COMBINATION TILE AND REINFORCED CONCR. FLOOR AND ROOF CONSTRUCTION.

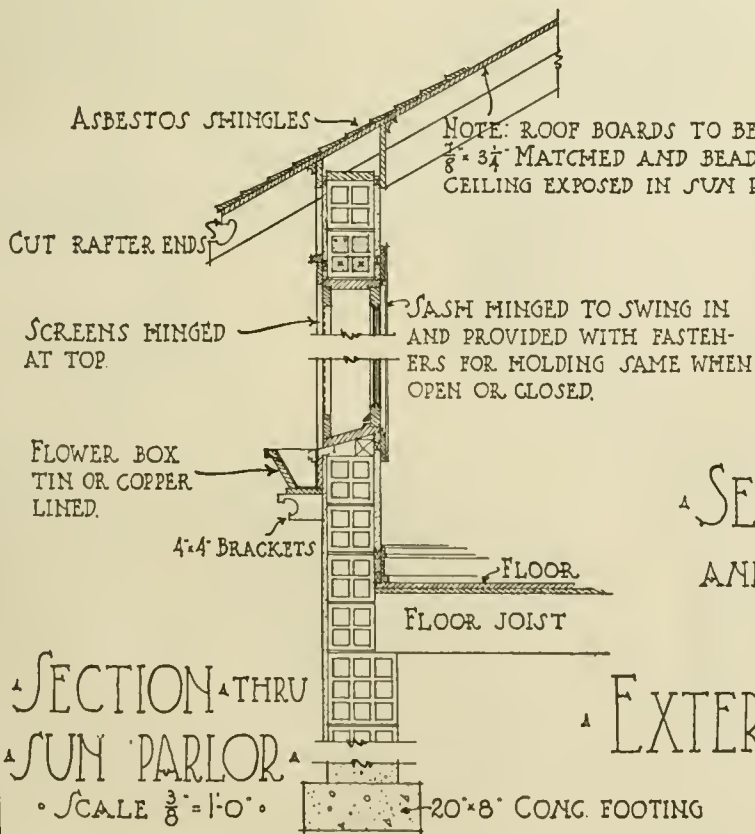


SECTION THRU FLOOR

SHOWING COMBINATION TILE AND REINFORCED CONCRETE FLOOR CONSTRUCTION.

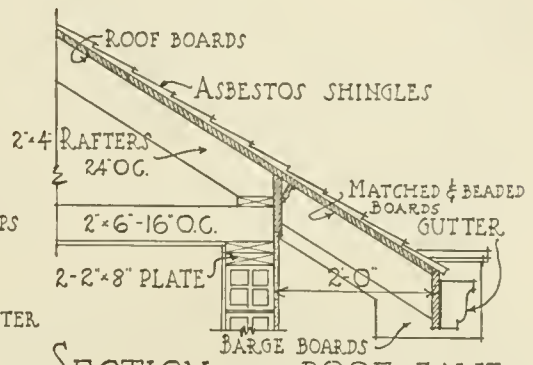
FIRE-PROOF WALL AND FLOOR AND ROOF CONSTRUCTION

SCALE $\frac{3}{8}'' = 1'-0''$

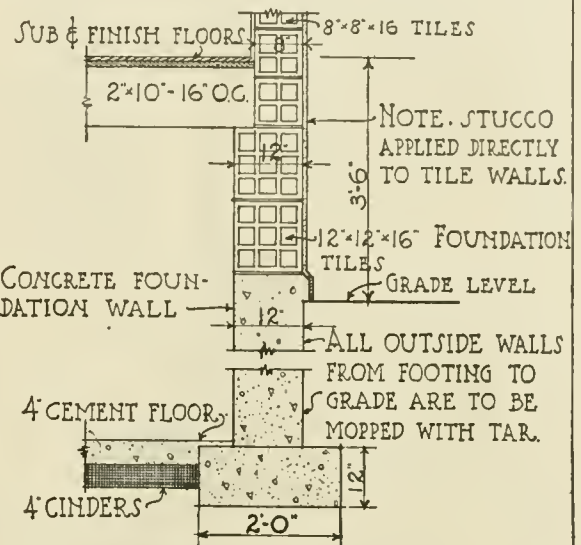


SECTION THRU SUN PARLOR

SCALE $\frac{3}{8}'' = 1'-0''$



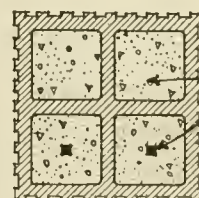
SECTION THRU ROOF EAVE



CONCRETE FOUNDATION WALL

WALL SECTION

SCALE $\frac{3}{8}'' = 1'-0''$



TILES FILLED WITH CONCRETE AND REINFORCED WITH $\frac{1}{2}''$ SQUARE BARS

PROVIDE A BEARING OF AT LEAST 8" AT EACH LINTEL SUPPORT.

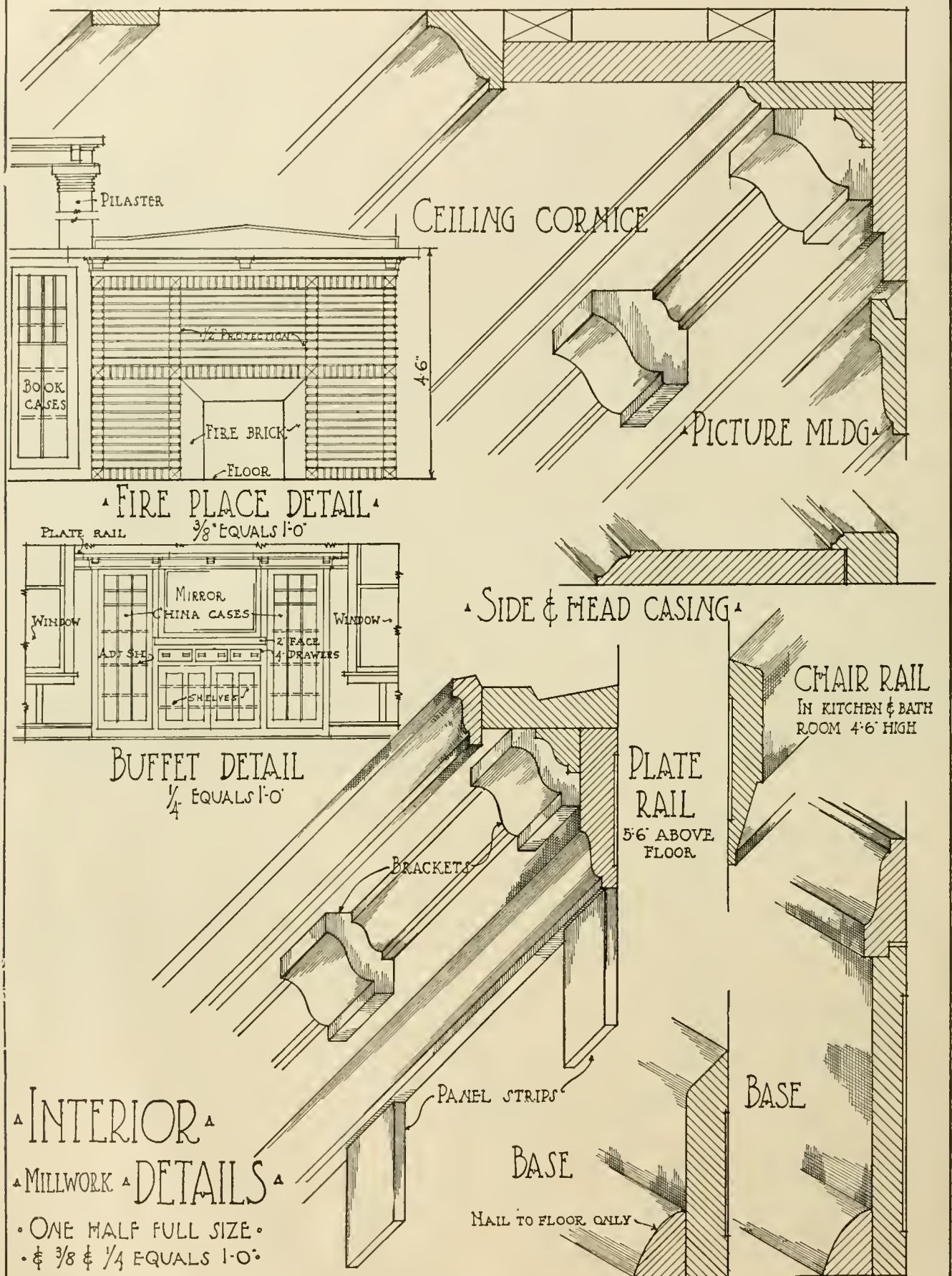
SECTION THRU ALL DOOR AND WINDOW LINTELS

SCALE $1\frac{1}{2}'' = 1'-0''$

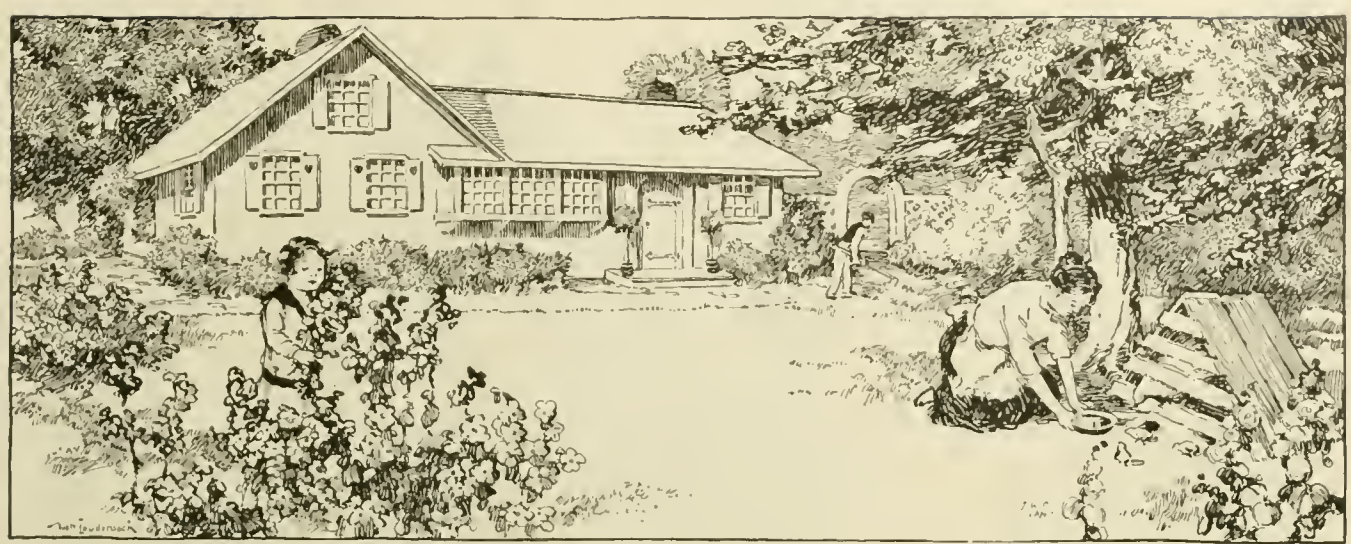
EXTERIOR WALL SECTION

DETAILS

SCALE $\frac{3}{8}'' \& 1\frac{1}{2}'' = 1 \text{ FOOT}$



Details of Interior Finish in Modern Fire Proof Residence (Design 6675 H) Shown on Page 46.



Cottage with a Dutch Roof

This cottage, while not a bungalow in the strict sense of the word, has the general appearance of one, and combines the low lines and broad, sweeping roof of the true bungalow, with the compactness and convenience of a well designed, up-to-date cottage.

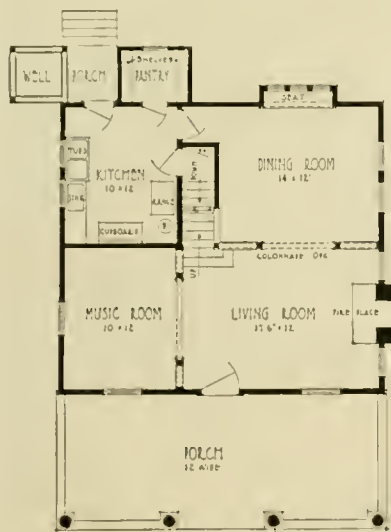
Its main feature, from a structural standpoint, is the Dutch type of roof, which extends over the front porch in such a way as to provide a surprising amount of room in the upper story, while at the same time it lends to the exterior a modesty not easily obtained

in a real two-story house. The space in the second story is, of course, obtained by the wide, flat dormer in front, but in this treatment the roof can be built low, and the dormer, although in reality the main part of the second floor, has the appearance of being merely a secondary row of windows added for the sake of their attractive appearance.

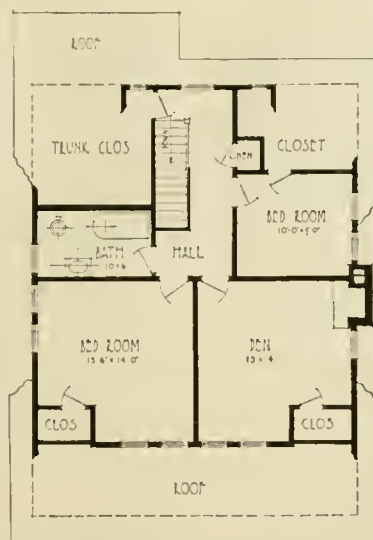
The body of the house is finished with bevelled siding on the exterior of the first story, the upper part being shingled. The siding is painted a tan color, while the corner boards and exterior trim are white, lending a pleasing contrast. The windows are well grouped, and are wide and low, giving a homelike appearance not to be obtained in any other way. The porch buttresses are cemented from the rail to the ground, and the foundations, of hollow tile, are also cemented. The gable projections are supported by white brackets, perfectly plain and square, which help the general effect considerably. In the upper story at one end of the house is a row of three windows and, at the other end, a massive chimney breast of brick give character to that elevation.

The front door is of the Dutch type, divided across the center, so that either the top or bottom can be opened without opening the other half. In front, the porch columns, four in number, are of cement, with small pieces of "peanut" stone embedded in the cement. This peanut, or pudding stone, as it is called, is of a deep brown color, with small pebbles embedded in it.

The house is entered through the front door into the living room. The trim in the living room is of a plain cabinet head type, and is finished in flat white. At one end of the room is a fireplace, with white colonial mantel. The walls are rough plastered and tinted snuff color. The ceiling is



First Floor Plan.



Second Floor Plan.



Seven-Room Cottage with Dutch Roof. Size, 29 by 25 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Ask for Design No. 6676 H.

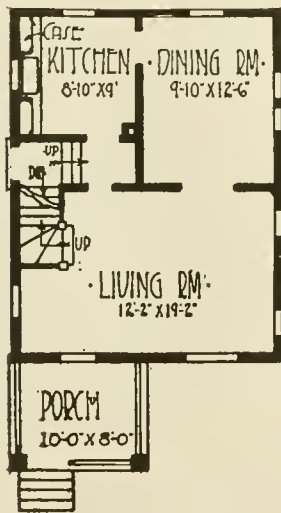
cream. These colors correspond very well with the white trim and give the room a very artistic appearance. One end of the room is divided from the rest by a columned opening, and forms a sort of music room. The columns are six inches square and set out about three feet from the wall on buttresses. The stairs ascend from beside this opening, two of the steps projecting into the room. A columned opening leads from the living room to the dining room.

This is the most attractive room in the house. A plate shelf runs around the room, and beneath it the wall is divided into panels. The centers of the panels are covered with dark green burlap. The panel strips, plate shelf and other trim in the dining room are flat white. All of the wood is plain, with no grooves or mouldings. The ceiling is crossed by two pairs of beams, at right angles, dividing it into panels. The walls above the plate shelf and the ceiling are rough plastered and tinted a pale green.

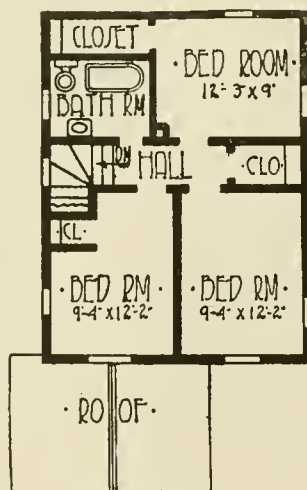
The kitchen is one of the features of the house. Its arrangement is ideal. A pair of windows provide light at the side of



Inexpensive Six-Room Cottage. Size, 20 feet wide by 26 feet in depth. We can furnish complete set of blue-printed plans and typewritten specifications for only \$5.00. Ask for Design No. 6679 H.



First Floor Plan.
Design No. 6679 H.



Second Floor Plan.

directly from the range to the cupboard, the water poured into the sink on the other side, and the food returned to the cupboard counter, the whole operation requiring only a few steps. In washing dishes, the wash tubs and the cupboard are handy and within easy reach to set a drain pan or soiled dishes on, whence they can be moved to or from the sink with hardly a step.

Six-Room Shingled Cottage No. 6677 H.

The house is 25 feet in width and 22 feet in depth, exclusive of porches. The cellar is of novel construction, being excavated a little smaller than the full size of house, the sides sloping towards the bottom. The sides are

the room, and beneath these windows are situated the sink and drainboard, and the tubs. Across the room is a gas range and a gas water heater. In addition, there is a 30-gallon hot water boiler, which is attached with a pipe coil to the hot water heating plant in the cellar. At the end of the room, between the gas range and the sink, is a kitchen cabinet. At the opposite end of the room, next to the entrance door, there is a good-sized pantry. The convenience of the kitchen consists in the fact that the mistress of the house can take her materials from the pantry to the kitchen cupboard, prepare it there, get water from the sink at one side, or place it on the range at the other side. When the food is cooked it is removed



Six-Room Shingled Cottage. Size, 25 feet wide by 22 feet in depth. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Ask for Design No. 6677 H.



Snug Five-Room Bungalow. Size, 27 feet 6 inches wide by 44 feet 6 inches deep. We can furnish complete set of blue-printed working plans and type-written specifications for only \$5.00 per set. Ask for Design No. 6678 H.

then covered with concrete, which prevents caving, and at the same time saves the expense of additional excavation and heavier foundation walls. The first floor contains large living room with platform stairs leading to second floor, and stairs to cellar.

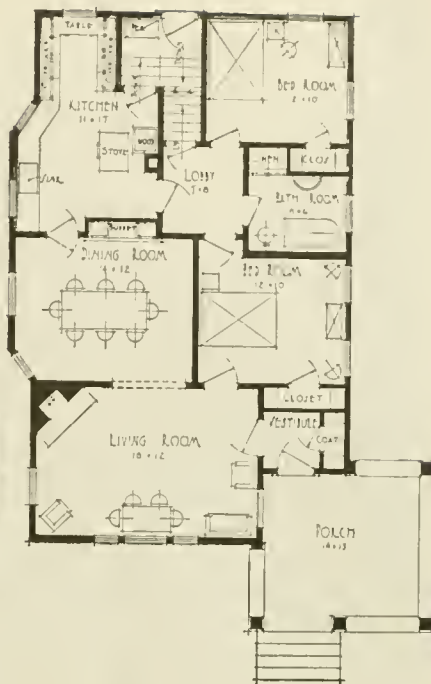
The dining room connects with living room with suitable arch. The kitchen is supplied with range, stationary tubs, enamel sink, boiler, etc. At the rear of the kitchen is a good sized pantry, and back piazza, all under one roof. The second floor contains three bedrooms, each with good closet, also bathroom with tile floor and open nickel plumbing. Stairs go up out of the bathroom to attic. The house is lighted throughout by electric lights, and heated by steam. The interior is N. C. pine

throughout, and finished natural color. The exterior is covered with Washington red cedar shingles. All timbers are of spruce.

Bungalow in Cold Climate

To build a house that will keep out the most cold is the aim of most home builders in New England. With this in view, the cost must necessarily exceed what it would be if built in a warmer climate.

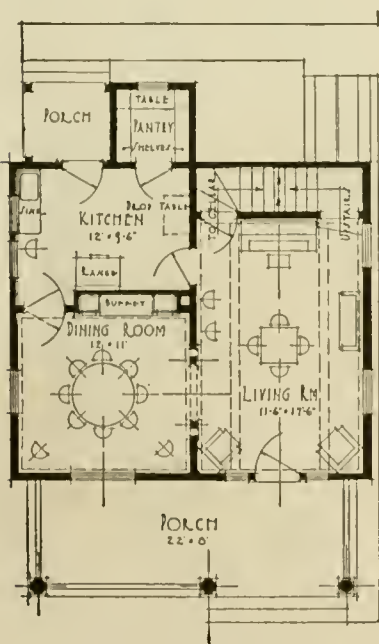
The bungalow has one story, but there is room above for a storage room. It has a bedroom 10 by 13 feet; one 11 by 13 feet; a bathroom; hall; kitchen 9 by 11 feet; dining room, 12 by 15 feet; living room, 12 by 25 feet; a screened porch on the back; a closet in each bedroom and in the



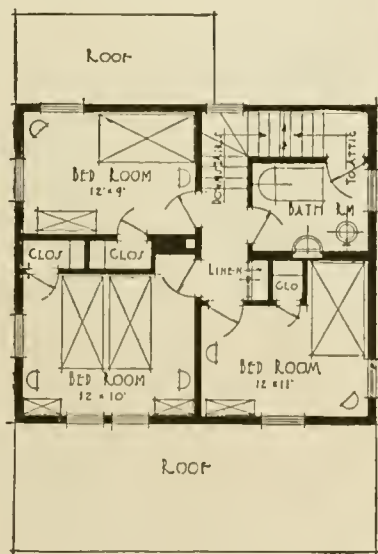
Floor Plan.

vestibule; also a linen closet in bathroom.

A feature of the bungalow is the veranda on the northeast corner. The exterior of the bungalow is of shingles, stained green, and set off by white trim. On the inside the finish is of cypress, a beautifully grained wood from Dixie. The floors are of yellow birch. The foundation of the bungalow is of concrete, solid below ground and molded blocks above, with the cellar bottom also cemented. The bungalow is provided with electric lights and a hot air furnace, besides having a good serviceable fireplace in the living room.



First Floor Plan.
Design No. 6677 H.



Second Floor Plan.



Living Room with Ceiling Beams—
Matched Underfloor in Place of
Plastered Ceiling.



A splendid Country or Village Home of six rooms, with all necessary modern improvements. Size is 24 by 30 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan, roof plan, first and second floor plans, front, rear, two side elevations, wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6683 H.

Solid Six Room House

A well built story and a half house, containing three rooms downstairs and three rooms upstairs, is shown in Design No. 6683 H.

The main floor is set up well on the basement which extends up above grade, and timber work from the wall to the first floor joists.

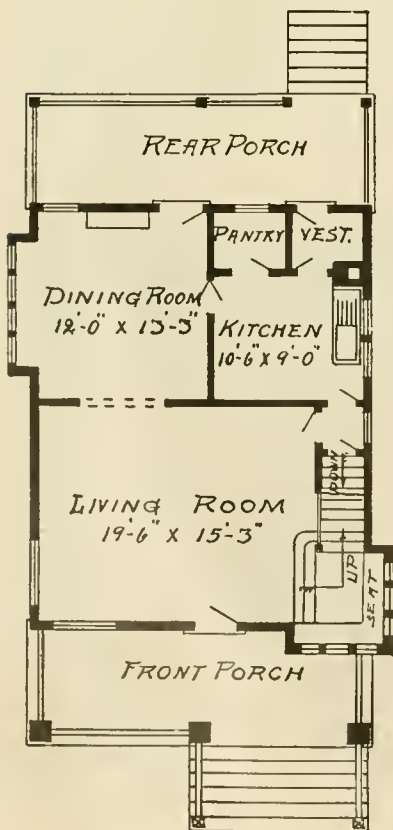
A rather massive front veranda gives a splendid appearance to the front of the house, besides supplying room for a pleasant outdoor summer parlor.

The first floor plan consists of living room, dining room and kitchen, with a splendid pantry and a convenient vestibule in the rear. A pleasant feature of this floor plan is the rear porch, which is the same size as the front porch and really affords two frontages.

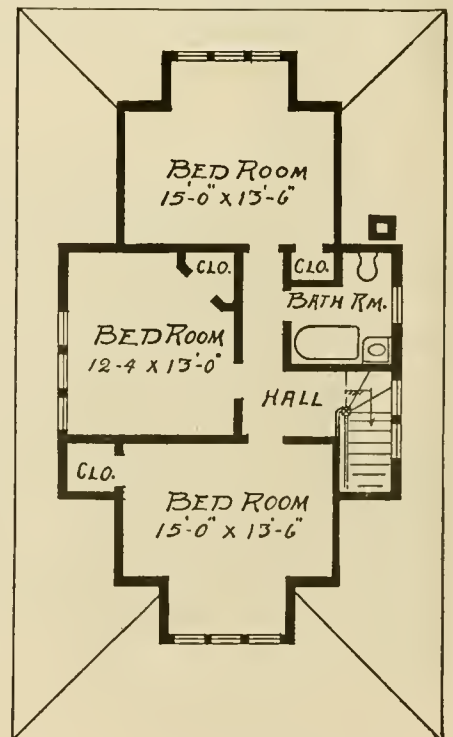
The stairway which goes up out of the living room is made of open work by using regular stock millwork. Under this stairway is a stairway leading to the cellar with a convenient entrance both from the kitchen and from the living room.

Upstairs are three bedrooms and a good bathroom, which is made pos-

sible by the building of two large dormers, which light the stairway, the bathroom and one bedroom.



First Floor Plan.



Second Floor Plan.



Six-Room Shingled Cottage. Size, 21 feet wide by 25 feet 6 inches deep, not including the porches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00. Ask for Design No. 6687 H.

A Beautiful Summer Cottage

In appearance it strongly resembles the Colonial type of New England farmhouse. It stands back some little distance from the highway in the midst of sloping lawns, and against a background of fine old trees. The exterior finish is of shingle, left unstained.

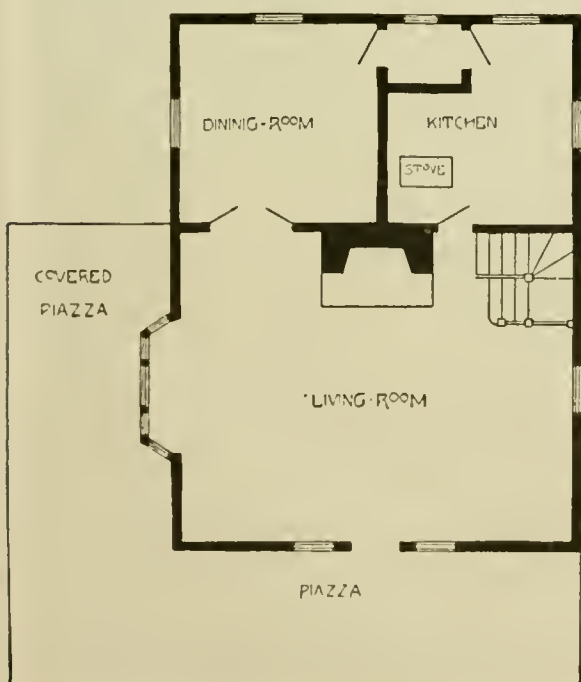
A broad, uncovered veranda extends across the entire front of the house, and it connects at one end with the side veranda, which is roofed over. Large tubs of foliage plants and boxes filled with pink geraniums are placed at intervals about. A low hedge of Japanese barberry outlines the front lawn, and great clumps of shrubbery are planted at one side.

The interior finish is of cypress,

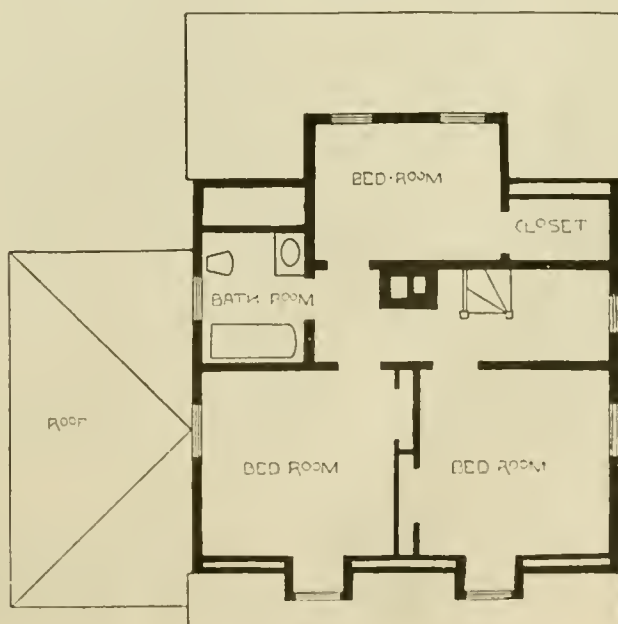
planed and stained a dull brown, no sheathing is used. The floors are all of polished hardwood.

The entrance door opens directly into the living-room, a cosy apartment, which connects at one end with the dining-room and kitchen.

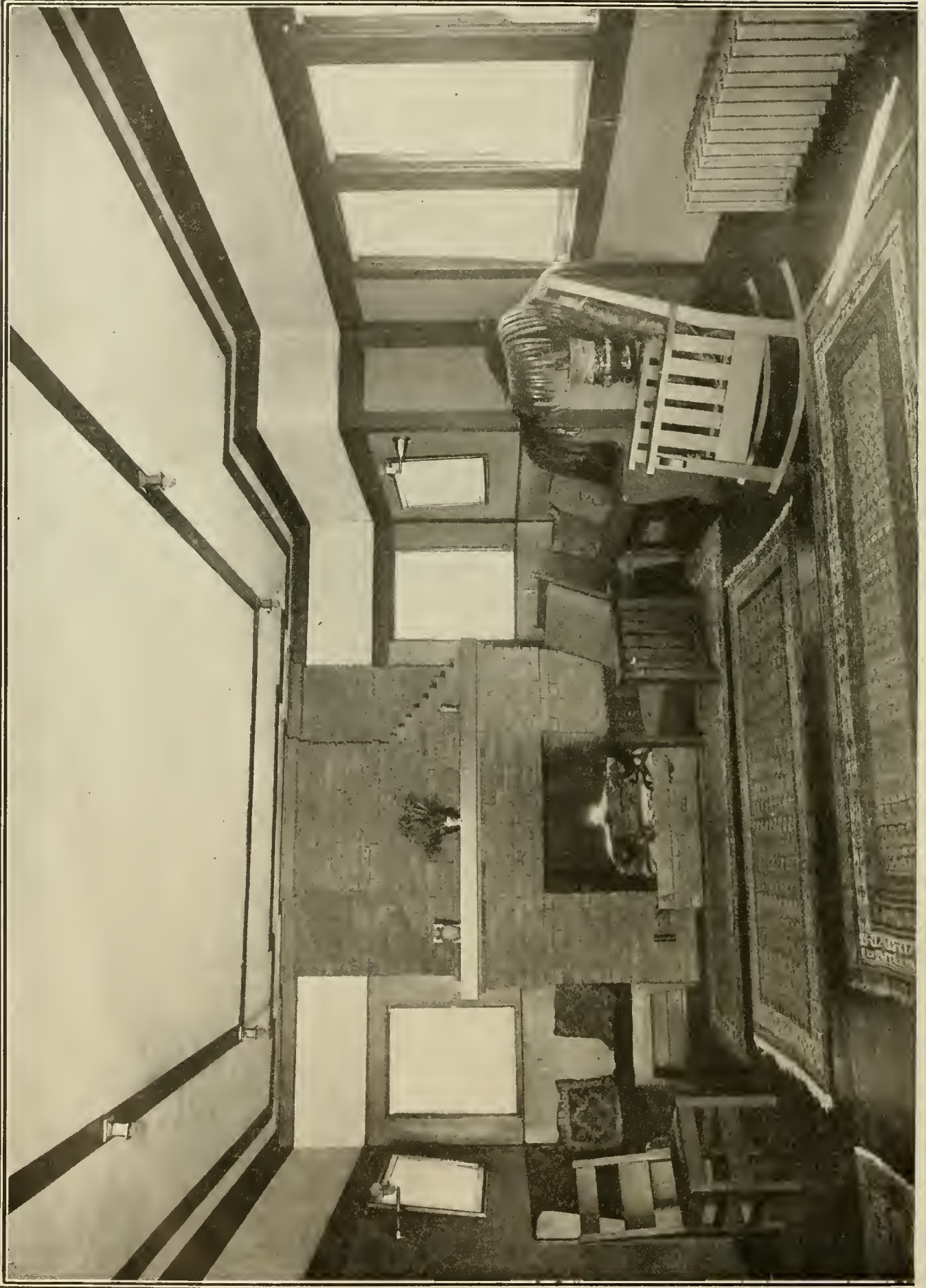
On the second floor are three chambers, a bathroom and linen closet, and in addition each room has a clothes closet.



First Floor Plan.



Second Floor Plan.



A Modern Bungalow Living Room, Commodious, Comfortable and Homelike. The Big Brick Fireplace and Built-In Chimney Corner Seats Strike the Note of Good Cheer and "Livableness" of This Room. Notice the Simplicity of the Wood Trim—Flat Moulding for Continuous Head Trim and Flat Bands on the Ceiling. The Furniture is of the Same Style. Both as to Wood and Finish, as the Standing Trim. This is Something that Careful Home Builders are Providing for These Days.

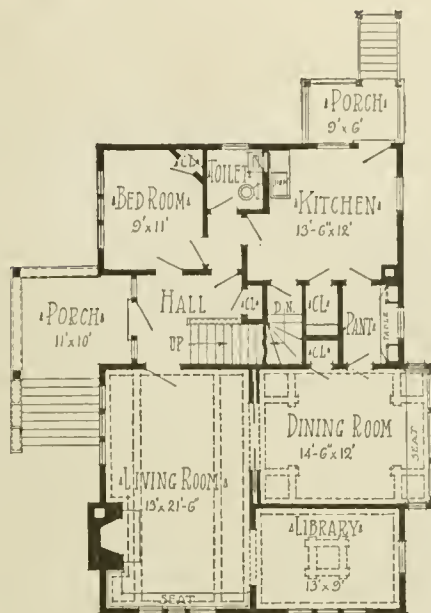
Shingle Sided Eight-Room Dwelling

A comfortable home on the craftsman order is shown in Design No. 6672. It is 30 feet 6 inches by 42 feet 6 inches in size, exclusive of projections.

It is a solid, well-built house, containing five rooms on the first floor and three rooms and a bathroom on the second floor. The multiple window system on the casement order is used throughout the house, which is rather unusual in house building. Recent improvements in casement window construction, together with inventions for opening and closing the curtains have greatly increased the popularity of casement windows, and accounts for their extended use. Casement windows have long been favorites when considered from the outside. The objection has always been the difficulty of using shades or curtains when the windows were open for ventilation.

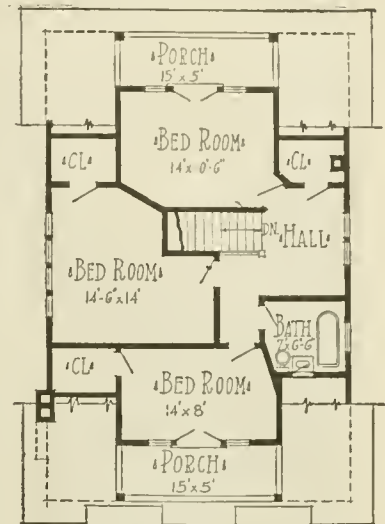
The shingle siding and the pergola fashioned dormer and side porch, together with the large rough finished brick chimney, laid up in white mortar—all combine to produce an unusual effect, but one that is on the whole pleasing and satisfactory.

The floor plans are worked out on the



First Floor.

with a fine large fireplace and six windows, which is intended to make a light, airy, comfortable living room, that carries an air of refined luxury.



Second Floor.

Arrangement of House, Size 30 feet 6 inches by 42 feet 6 inches.

most approved lines when considered from the standpoint of comfort and health. A house of this character is supposed to be built on a rather wide lot, where it is exposed to the air and sunshine from all sides.

The large living room is 14 by 22 feet,

There are many conveniences both on the first and second floor in the nature of clothes closets, and plumbing for different purposes to make up a very interesting house plan.

Upstairs two of the bedrooms are built with sleeping porches.



Shingle Sided Eight-Room house. Size 30 feet 6 inches by 42 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6672 H.



Shingled Summer Cottage. Size, 21 feet 6 inches wide, 37 feet long. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue prints consist of basement plan, roof plan, first and second floor plans, front, rear, two side elevations, wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. Ask for Design No. 6688 H.

Shingle-covered Summer Cottage

A very artistic cottage, 21 feet 6 inches by 37 feet, is shown in Design No. 6688 H.

This interesting little cottage is built on cedar posts set deep down in the ground and thoroughly well braced. The outside covering is of shingles, including the side walls, veranda sides and roof. The staining of the shingles is in harmony with the other surroundings.

The floor plans are very simple. The first floor is principally veranda

and living room, but there is a small kitchen and pantry with conveniences to do considerable cooking when occasion requires it. The main feature, of course, is the large living room with its big open fireplace, with a dining room in one wing and a music room in the other.

Upstairs are five small bedrooms and a bathroom. The idea is to accommodate as many friends over night as needed to make the home the popular week-end place of reception and entertainment.

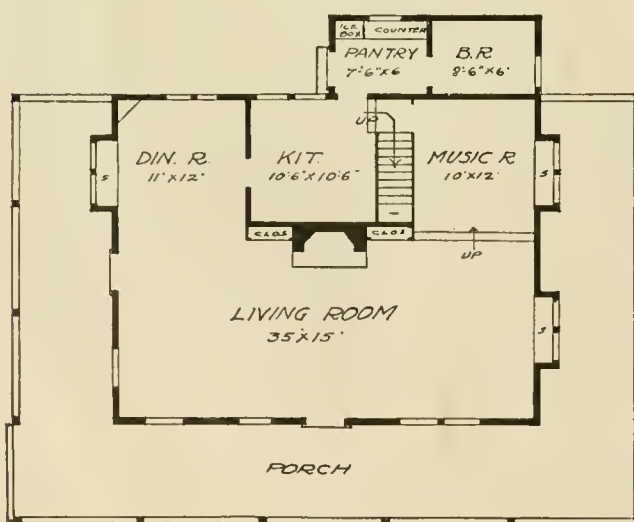
Such cottages are very popular at summer resorts or on farms that are

kept for pleasure rather than for profit.

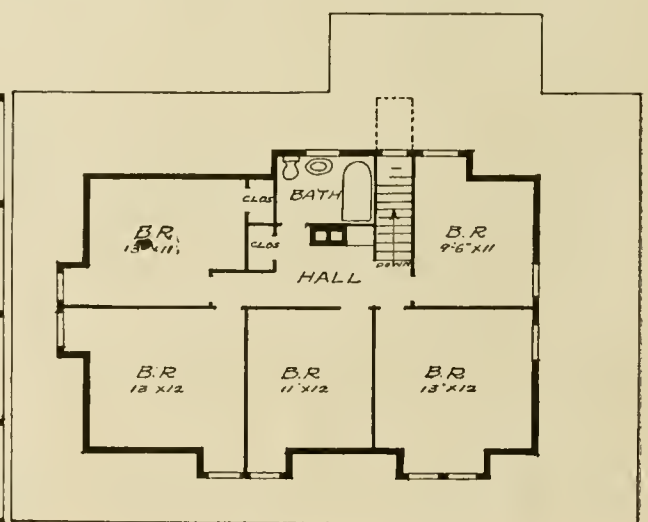
The verandas are built with square posts, carefully spaced and plumbed, so that screens or sash may be fitted to enclose the veranda, if so desired.

In constructing a house of this character it costs no more to make provision for future screening, and it adds a good deal to the convenience of doing the work if it is afterwards found desirable.

Screens are almost a necessity in order to make the porches comfortable, as mosquitoes and sand flies will otherwise prove a nuisance.



GROUND FLOOR PLAN



SECOND FLOOR PLAN



Neat Shingled Cottage. Size 29 feet wide by 31 feet long. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6689 H.

Four Room Cottage House

A square built cottage, a good deal on the English order, is shown in Design No. 6689 H. It is 29 by 31 feet on the ground, exclusive of the front porch.

The basement wall is of stone, eight feet in height from the footings to the sill of the main floor. This gives plenty of head room in the cellar to properly lay the pipes of a hot air furnace.

Also a good height of wall makes room for good deep cellar windows. The fashion of late is to furnish light for a cellar on more liberal lines than formerly. In fact, more use is made of cellars and basements, because of the new laundry machinery that is often introduced into small dwelling houses and placed in the basement where it properly belongs.

The outside appearance of this little cottage is made attractive by the neat cornice projection of the roof, the artistic dormer windows, the window seat projecting from the dining room, the comfortable front porch, also the small kitchen entrance porch at the side.

The floor plans of this interesting cottage have been worked out with a great deal of care. There is a good living room, an artistic dining room and kitchen that is planned for comfort and convenience in doing the housework. The one bedroom is a good size and is conveniently arranged for placing bed-

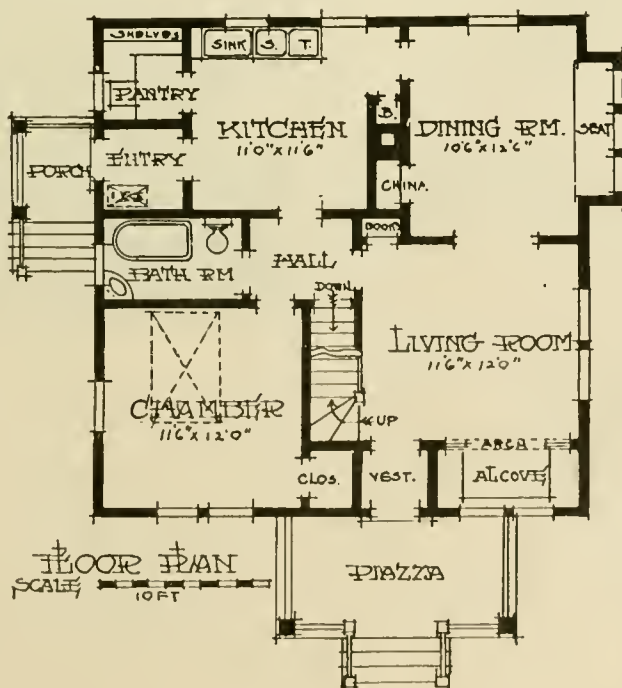
room furniture. The little hallway connecting the kitchen, bathroom, bedroom, cellar way and living room is a very small affair to afford so much convenience.

In addition to all the rooms specified there is a splendid pantry with a good window for light and plenty of shelf room. The entry between the side porch and the kitchen is intended to hold a refrigerator and to provide storage for a good many kitchen conveniences.

A built-in buffet in one corner of the dining room is for the display of fine china and glassware.

Above the living rooms is a good attic, which is a buffer against heat and cold. The roof is carefully covered with building paper under the shingles to make the house warm in winter and cool in summer. Considerable storage room is provided in the attic and it is possible to work in a couple of small bedrooms if so desired.

In boring never bore entirely through a piece, but reverse the piece and finish the hole from the other side after the worm penetrates.





Modern Colonial House. Size, 46 feet wide by 31 feet 8 inches deep. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan, first and second floor plans, roof plan, front, rear and right and left side elevations, wall sections and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6690 H.

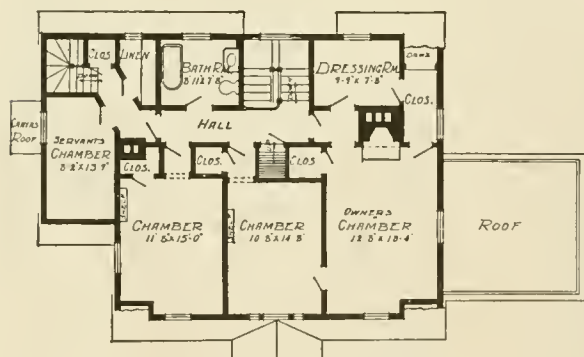
Modern Colonial House

The house shown is a modern adaptation of the Colonial. The severe lines of the gambrel roof are broken by the introduction of numerous dormer windows, which, in addition to being attractive, help render the interior bright and cheery. The exterior finish is of shingle, stained gray, with white trim, and dark green blinds.

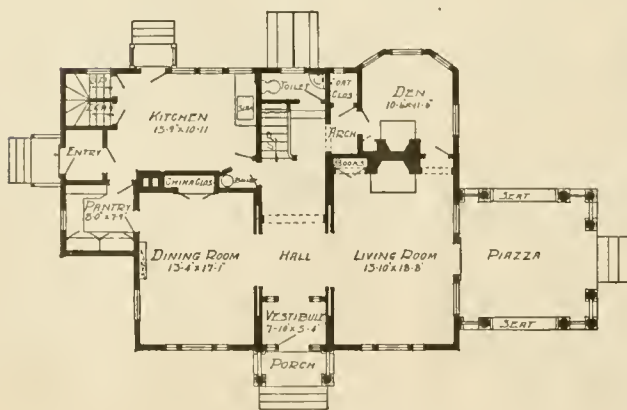
The front porch, distinctly Colonial in design, is covered with a peaked roof, supported by four columns, with trellis work arranged between to afford a foundation for vines. The entrance opens into a vestibule, lighted by side lights and this in turn connects with the central hall, from the farther end of which a staircase rises by low, broad treads to a landing, lighted by a great window, from

which another flight of steps ascends to the upper hallway.

To the right of the hallway is the living-room, finished in pine with white enamel finish. Its walls are hung with paper of a striped pattern in tones of gray, pink and white, and its floor is of hard pine, polished. A large fireplace, constructed of pressed brick laid in white mortar, occupies a prominent place at one side.



Second Floor Plan.



First Floor Plan.



Rear View.

Opposite the living-room is the dining-room, also finished in pine, but stained to represent old oak. A high wainscot extends around the sides of the room to a height of 8 feet where it is met with a frieze of field daisies, finished at the top with a cornice of oak-stained pine. A feature of this room is the large built-in china closet at one end, which possesses the advantage of being decorative as well as useful. There is a separate stairway to the second floor from the kitchen. This is a great convenience for the servants, as it leads to the hall off from the servant's bedroom and the linen closet.



Palatial six-room bungalow in cement plaster. Size 42 by 43 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6693 H.

Palatial Six-Room Bungalow

A feature of this very artistic design is the large unobstructed floor space across the front of the house. The reception hall is extremely roomy and opens through cased openings into the living room on one side and the dining room on the other. These openings are as wide as the depth of the reception hall, and give the impression that the front of the house is all one big room. When the lady of the house is entertaining, the fact that these two rooms can be used so readily will be a big advantage.

If you don't believe us, ask any housewife what she thinks of this arrangement. We think such a design, which makes these rooms so accessible, will go big with the lady of the house.

The living room presents a remarkably cozy appearance. On the opposite side from the opening into the reception hall is a big brick fireplace, which has a bookcase on each side of it. The nook with the seat around it deserves special mention. The pergola is not built all the way across the front of the house, but a little corner is left projecting out at the end of the porch. The nook is built into this corner and seems to be detached from the rest of the room. A nook like this makes a very interesting and striking change from most house designs.

The window seat in the

curved bay of six windows in the dining room is a great convenience. It adds considerably to the use of the dining room in connection with the living room when they are used together for entertaining. There is a pair of double doors, full glazed, going onto the front porch, which make the porch and pergola accessible from this room. The porch can be reached from any room in the front of the house through similar doors. There are two sets of double doors from the living room and there is one set from the reception hall in addition to the solid door at the main entrance. All

these double doors are of glass, which helps light these beautiful front rooms.

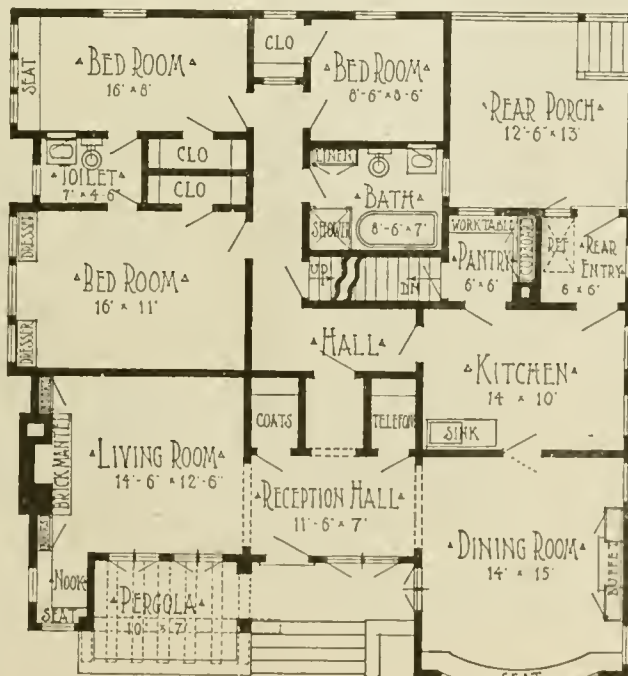
The closets in this bungalow should be a source of joy to the house-wife. The reception hall opens into an interior hall at the back. On one side of this archway is a closet for wraps and on the other is a telephone booth, which provides for privacy in telephoning. The closets in the two bedrooms on the side are exceptionally large, while the one for the bedroom in back is of good size.

The interior hall is a feature in this design. It opens into every room in the back of the house. The kitchen, the three bedrooms, and the bathroom are all easily reached through this hall. The stairs to the storage room in the attic are also in this hall.

The bathroom, in addition to all the usual fixtures, is large enough so that a shower and a linen cabinet are placed in it. There is another toilet between the two bed rooms on the side.

The kitchen is very large and has two pantries with a cupboard between them. The rear pantry or entry room contains a refrigerator which is iced from the outside.

This house is very beautiful from the outside. It is a modern cement plaster design with structural timbers showing. The beams from the pergola; the two gables, one over the porch and the other over the dining room extension; all combine to make an extremely pleasing impression.



Arrangement of Palatial Bungalow. Size 42 feet by 43 feet 6 inches.



Cement Stucco House of eight rooms. Size 22 by 45 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$9.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6695 H.

Eight-Room Cement Stucco House

Here is shown an eight-room, story-and-a-half house that is very comfortable and home-like. There are five rooms on the first floor besides three close up under the roof. There is also a big storage room in the back under the roof. This design is particularly well adapted to a narrow lot where a good roomy house is wanted.

On the ground floor, the reception hall opens into the living room on one side while the stairs to the second story are on the other side. There is a generous closet in the reception hall which will provide plenty of room for wraps. The entrance into the living room from the reception hall is through a cased opening. The dining room is back of the living room and has a seat on the side built into a window, which is a pleasing feature. The kitchen is back of the dining room. The stairs to

the cellar open into a hall in the back of the house. Both the bed rooms on this

floor open into this hall, as does the bathroom which is between the two bed-

rooms. The basement is large and very well arranged.

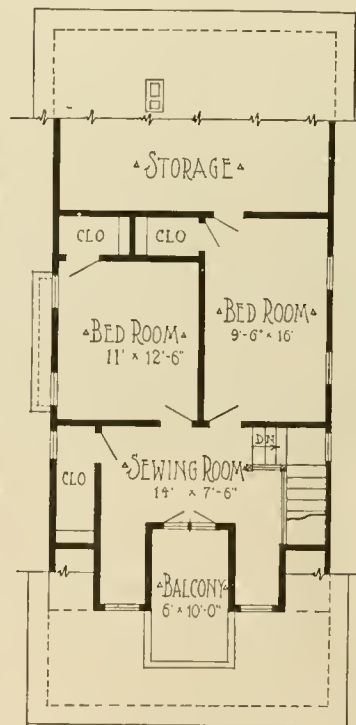
The feature of the second floor is the sewing room which has two dormer windows, one on each side of the balcony, and facing toward the front of the house. The balcony is reached through the sewing room by double glazed doors that serve as windows to light the sewing room when the doors are closed. These two windows and the balcony give a very pleasing appearance both from the outside and from the inside.

The wide porch with its rough stone pillars, combined with the two dormer windows, causes the house to have a very attractive look. The house is finished in cement stucco which gives it a substantial appearance.

This construction—cement plaster or metal lath—it just as good as it looks, too. It is being very widely used and the results are unfailingly satisfactory where the work is properly done.



First Floor.



Second Floor.

Arrangement of House, Size 22 ft. by 45 ft. 6 in.

Shingle Bungalow of Unique Design

A small bungalow of five rooms, which is particularly suited to a narrow lot, is shown in the accompanying illustrations.

The outside finish is particularly attractive. The sides are made of shingles which are laid with alternately wide and narrow exposure to the weather. The trim is white, which contrasts prettily with the shingle finish. The gables are paneled and the cement stucco in these panels fits in very well with the rest of the exterior decoration. The porch extends the full width of the house and offers unlimited possibilities for decorating. With the many kinds of porch furniture that one can get now at a very reasonable price, it is possible to make a porch into a summer parlor that will add much to the beauty of a house. The part of the porch near the front door is covered by a projecting gable and the rest is of the pergola type. The tapering white posts, supporting the roof, are rather unusual.

The inside arrangement is very good. The reception hall is large and, with the wide opening to the living room, seems to be almost a part of that room. There is a closet in the hall and a door leads to one of the bedrooms.

The living room is fairly large and

is almost square. It is well lighted by three big windows opening on to the pergola and two windows on the side. The cased opening into the dining room is so large that the effect is given of

one big room and these two rooms can be used together if occasion demands.

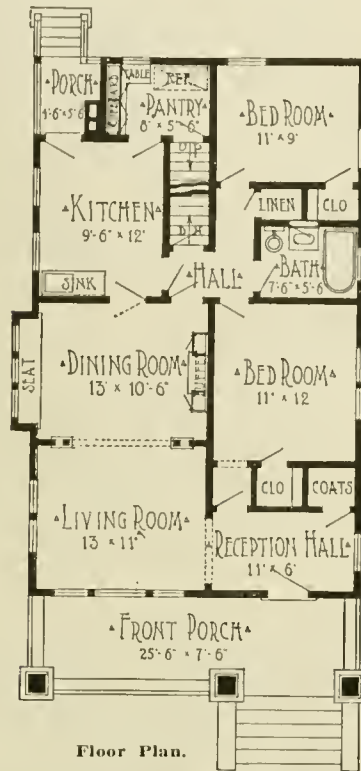
The seat in the square bay window in the dining room is one of the features of this room. There are three windows in this bay with the seat underneath which presents a pleasing appearance. A buffet is built against the wall opposite this window.

A well lighted kitchen is often lacking in houses that are otherwise designed with a great deal of care. The lighting in this one is taken care of by two wide windows which extend almost across the side of the kitchen. This should result in a large decrease in the number of family jars, as house-wives say that only a saint can get up a meal in a dark kitchen and still keep her disposition unruffled.

There is a large storage place in the attic. The stairs to this go up from the pantry, which also contains a cupboard, a refrigerator, and a table.

The inside hall in this house opens into both the bedrooms, the bathroom, the dining room, and the kitchen. Also the stairs to the basement are reached through this hall. The basement is large and that is a good feature to have in a small house.

For a house of this size, the design shown here combines a fine arrangement with a very picturesque appearance.



Size 25 ft. 6 in. by 41 ft. 6 in.



Picturesque shingled Bungalow of five rooms. Size 25 feet 6 inches by 41 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of type-written matter. When ordering, ask for Design No. 6698 H.



A Modest Living Room or Library with Open Book Shelves Arranged Both Sides of Glazed Door. The Arrangement of the Windows in Connection with this Doorway and the Bookcases is Good. The Trim in this Room is Very Simple. The Open Fireplace with Hearth and Mantel Facing of Square Tiles is a Prominent Feature.

Four-Room Shingled Nest

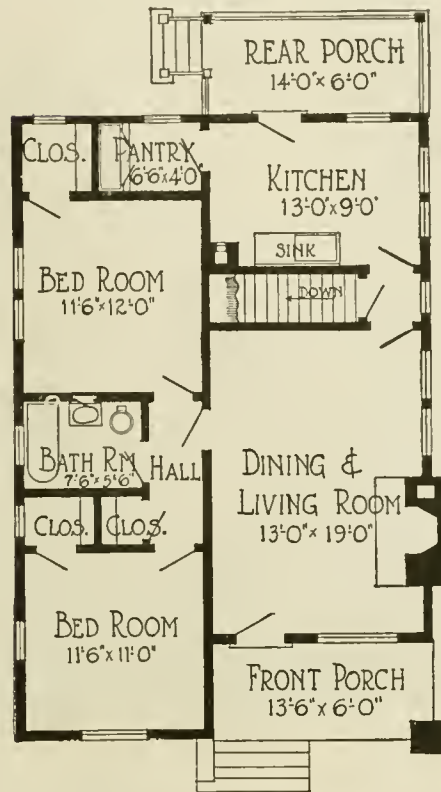
In many modern houses the owners insist that one large living room is the most important part of the house. To attain such a result in a small house, it is often necessary to combine the living room and the dining room into one large room. Such a design is shown here.

The sunny side of this house is taken up by a front porch, a combination living and dining room, and a kitchen. The other side has two bedrooms and a bathroom with all the necessary closets, a pantry, etc.

The size of the living room in this design, considering the size of the house, is remarkable. The bungalow is only 26 by 39 feet and the combination room is 13 by 19 feet. There is a big fireplace in the side of this room near the end, while two big windows occupy the rest of the outside wall space. There is also a wide and rather low window opening out onto the porch. This adds greatly to the artistic effect of the room. With the proper selection and placing of furniture, this room can be made much more attractive than many rooms in houses costing two to three times as much. The wall space along the inside wall and in the back corner of this room can be utilized fully in the placing of furniture, if the arrange-

ment is carefully studied out. This room has unlimited possibilities for decorations.

Though the living room is very



Four-Room Nest, Size 26 by 39 ft.

large, the house has been so well arranged that the other rooms are all a good size. There is a small hall that opens into both the bedrooms and also into the bathroom. These narrow halls that are often placed in houses are a great convenience. They make all the rooms accessible and add greatly to the comfort of a house.

The closet room in this design is also a feature. There are large and roomy closets in each of the bedrooms and also there is a closet opening into the hall that can be used for linen, etc. The rear porch and the kitchen are both of good size and conveniently arranged.

The exterior view is particularly attractive and artistic. The roof treatment deserves notice because of its unusual design. There is a gable projecting out in front to cover the house on one side, and the distinctive looking built-in porch is the feature of the other. At each front corner the pitch of the roof is changed and made slightly flatter than the main roof. This adds to the unique appearance of this little bungalow. The cobblestone pillar supporting the roof at the corner of the porch is another striking feature of the appearance of this design. This pillar is tapered down toward the roof. The foundation under the porch is also of cobblestones.



Shingled Four-Room Bungalow. Size 26 by 39 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6705 H.



Compact Story-and-a-Half Cottage of Six Rooms. Size 28 by 29 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6700 H.

Six-Room Story-and-a-Half Cottage

A story-and-a-half house of six rooms is shown in the illustration on this page and on the three pages following.

A feature of this design is the large rooms, though the house itself is not very large. The living room is 16 by 13 feet and has a brick fireplace built into it

at the end. The entrance into this room from the reception hall is through a wide cased opening and there are French doors leading into the dining room.

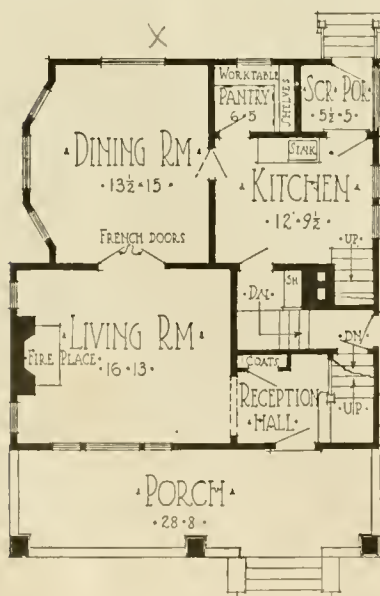
The dining room is perhaps the most attractive room in the house. On one side there is a wide bay window that extends almost the entire length of the room with a large window in the center

and a narrower one on each side. The walls up to the plate rail are finished in wall board or veneer panels having 3-inch stiles. There is also a wide window at the back of this room. All these features blend together to form a most pleasing and beautiful interior.

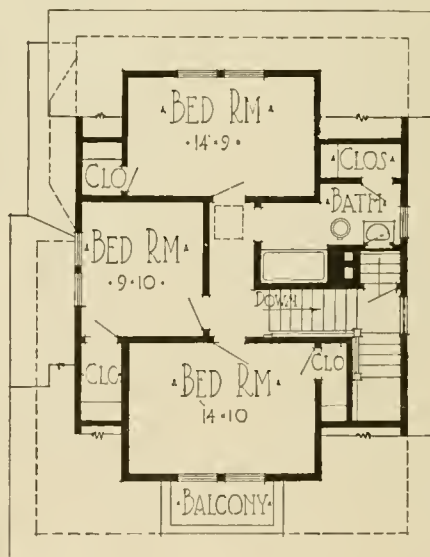
The arrangement of the pantry in connection with the kitchen will gladden the heart of the housewife. In this pantry we have a combination of maximum convenience and compactness with no crowding. The work table is in the end, with drawers underneath, and the cupboard is on the side, with a wide shelf on top of the floor bins and narrow shelves above. This presents an almost ideal condition with no walking around and everything in front of you.

There are three bedrooms on the second floor; one on the side; one in front; and one in the back. The front and back bedrooms are each built partly out into a dormer window. The front dormer has a balcony built out from it which adds to the appearance of the room and also looks well from the outside.

The exterior finish of this design is of clapboards up to the plate with the gables shingled. The roof dormer is also shingled.



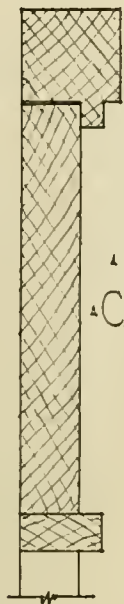
First Floor.



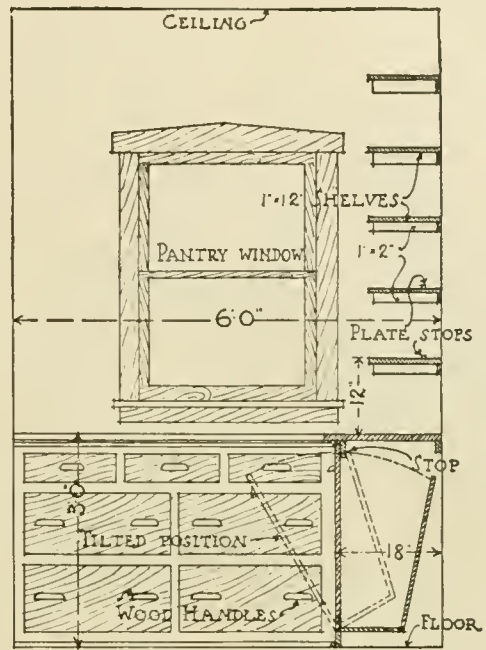
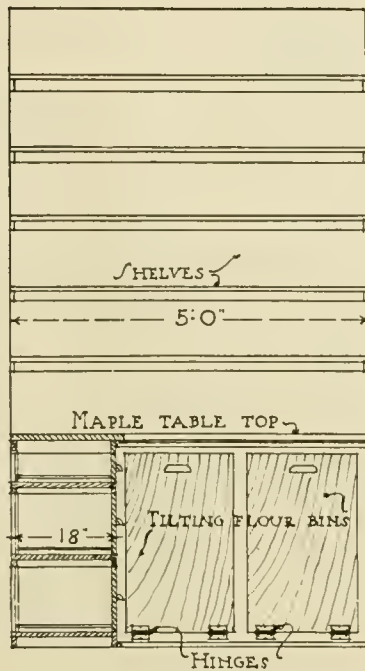
Second Floor.

Arrangement of House, Size 28 ft. by 29 ft. 6 in.

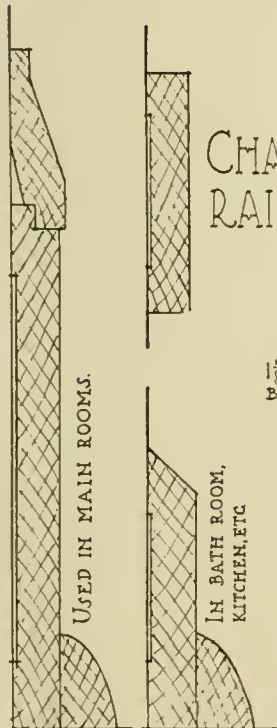
For Interior and Construction Details of this House see Next Three Pages.



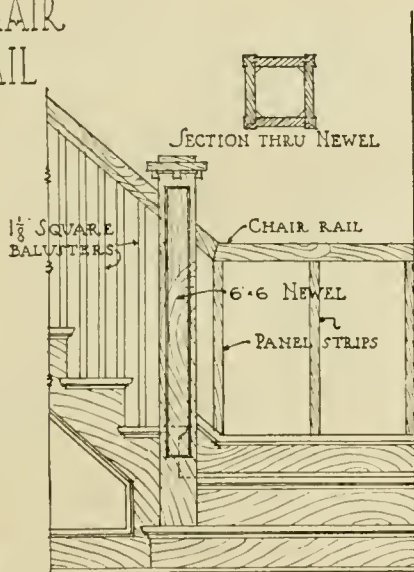
HEAD CASING



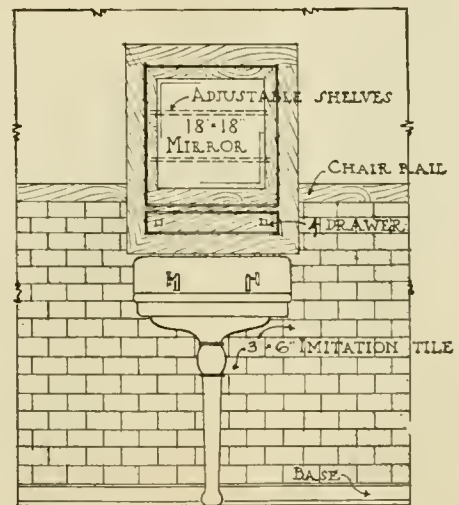
PANTRY CUPBOARD DETAILS
• SCALE $\frac{3}{8}$ " = 1 FOOT •



CHAIR RAIL



BASE BASE MAIN STAIR DETAIL
• SCALE $\frac{3}{8}$ " = 1'0" •



MEDICINE CASE
• SCALE $\frac{3}{8}$ " = 1'0" •



WINDOW STOOL



SIDE CASING

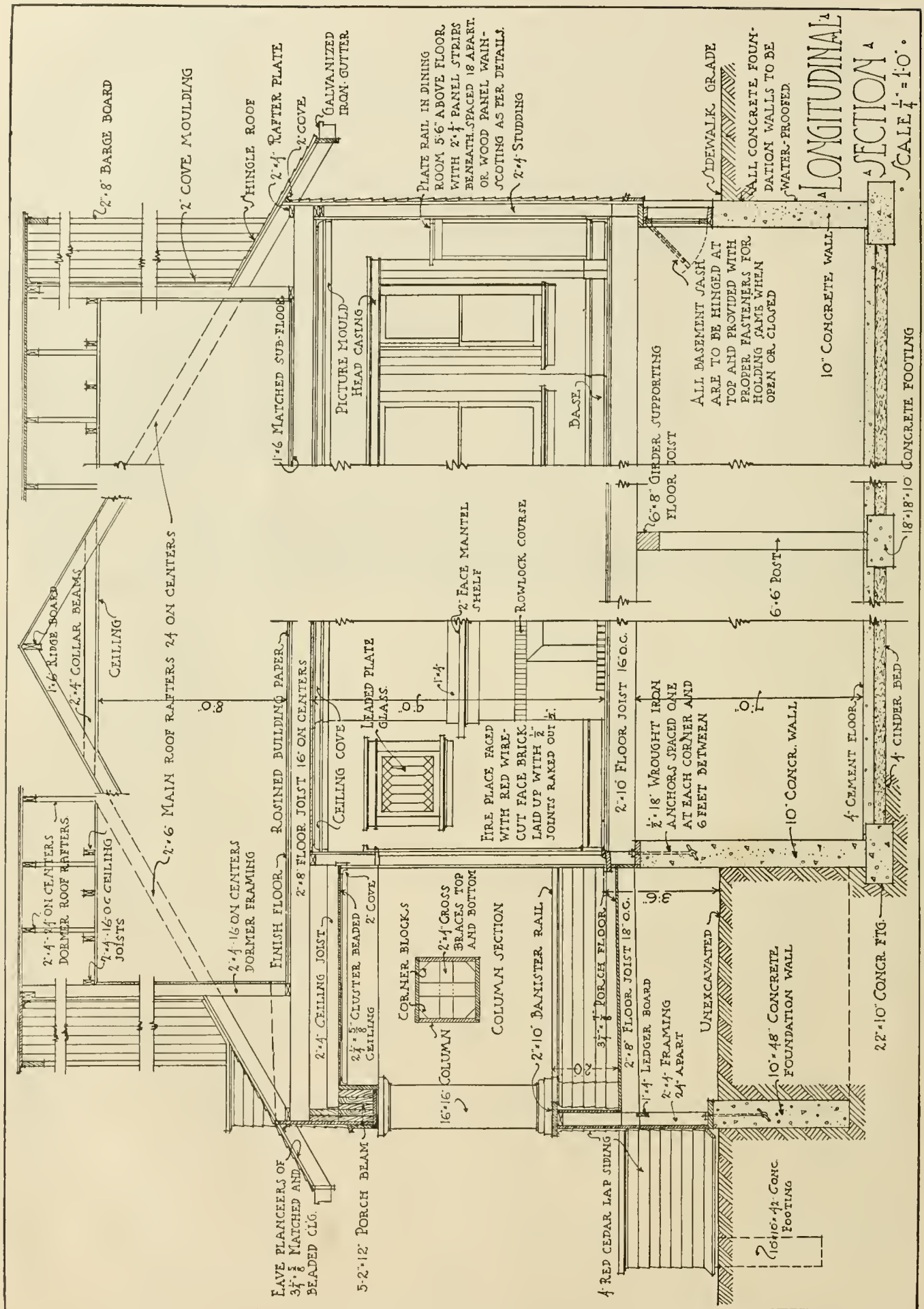


DOOR & WINDOW STOP

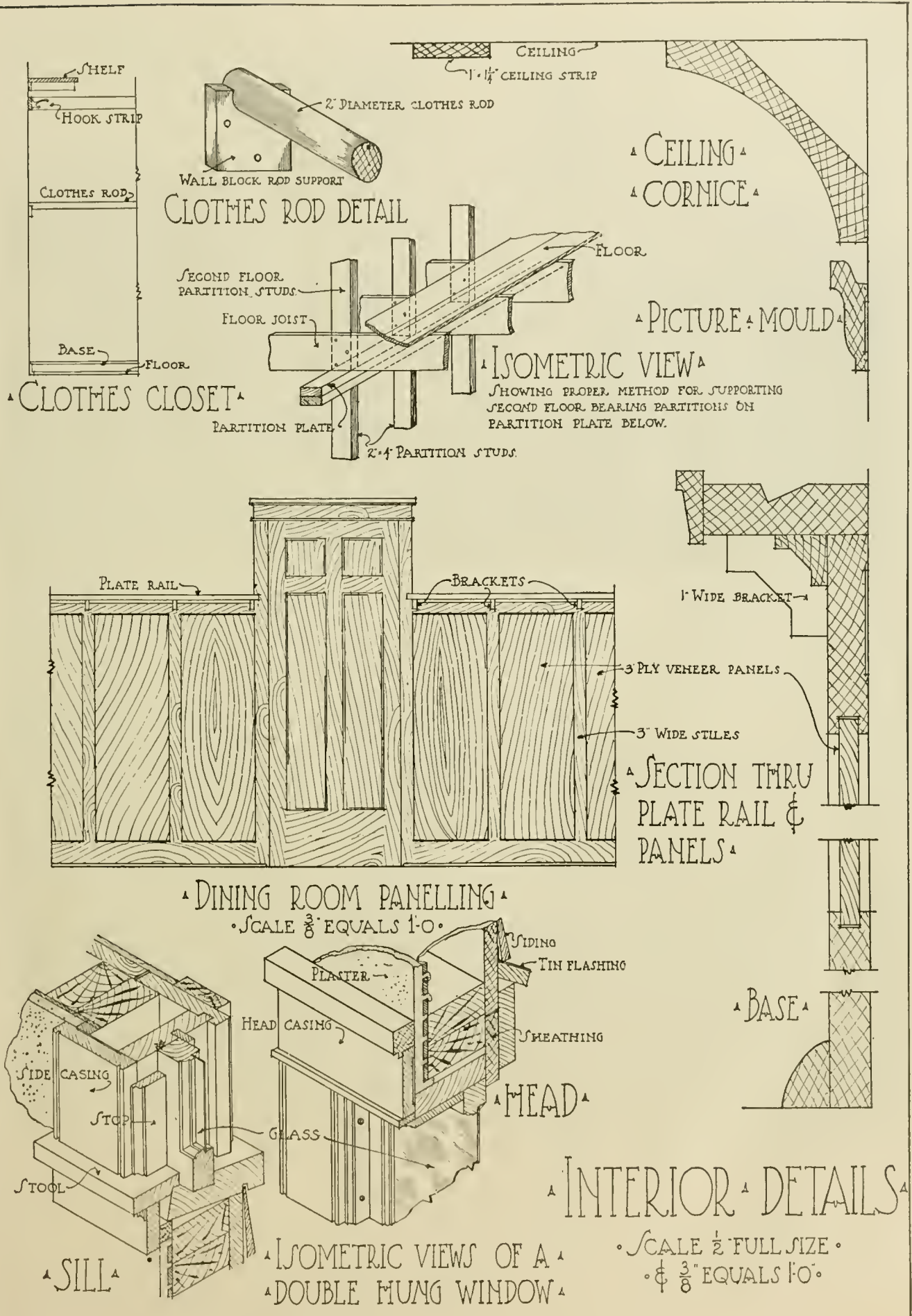


SECTION THRU TILE FLOOR
• SCALE $\frac{3}{8}$ " = 1'0" •

INTERIOR DETAILS
• SCALE $\frac{1}{2}$ " FULL SIZE &
• $\frac{3}{8}$ " EQUALS 1'0" •



Section from Front to Back Through Story-and-a-Half Frame Cottage (Design No. 6700 H) Shown on Page 64, Making Clear the Important Construction Details in Work of This Kind.





Nine-Room Erick Bungalow. Size, 32 feet by 33 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan, roof plan, first and second floor plans, front, rear, two side elevations, wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6645 H.

Brick Veneered Bungalow

A very attractive dwelling 32 by 38 feet in outside dimensions, not including front porch, is illustrated on this page. It is a brick veneered and stuccoed structure, designed along the ornamented bungalow lines, now so popular.

The foundation walls up to grade line are of concrete, 13 inches thick, resting upon 24 by 12-inch concrete footings. A 13-inch brick foundation wall extends up to support the first floor joists. Above this a regular balloon frame is erected and then sided with a veneer of face brick up to the second-story window sills. The gable ends are cement plaster, laid off into panels by exposed timbering, according to the English style.

The main floor is very conveniently arranged, containing large parlor with connecting dining room, a cozy little den, first-floor bedroom and toilet room, kitchen, pantries, central stairway, hall, etc. On the second floor are two bedrooms of good size and two smaller ones. Each has a good-sized clothes closet. There is also a closet off the bathroom. The basement is arranged for heating plant and coal room, laundry with set tubs, vegetable cellar, work shop, soft water cistern, etc.

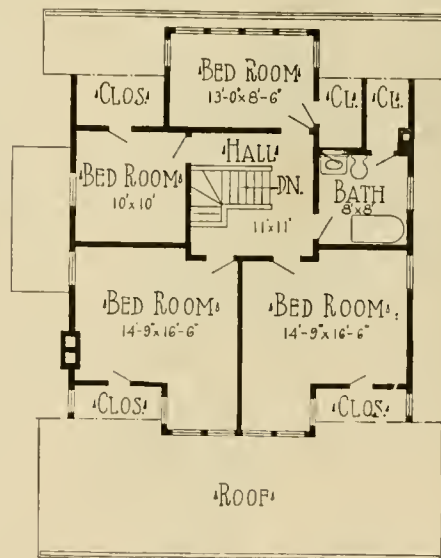
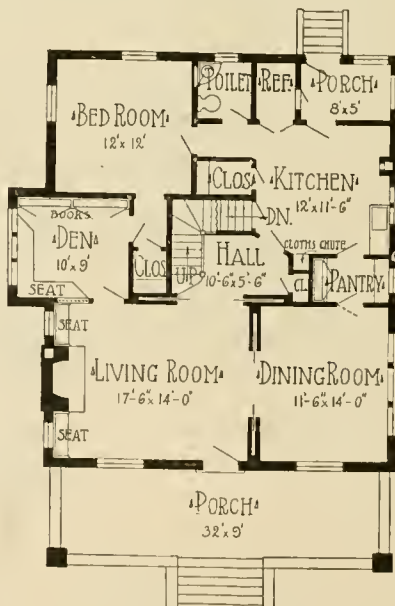
A careful study of these plans will reveal many desirable arrangements.

Trim Color for White Houses

To use good taste in choosing the trim color of a residence often transforms an otherwise uninteresting color scheme into a very pleasing one. Many houses are painted all white—both body and trim. Whereas, if

some were trimmed in not too dark a color, such as dark bottle green, slate, medium drab, and of the darker shades produced with black and ochre, a nice gray, etc., the white body would show up whiter because of the contrast and the whole scheme would be more attractive.

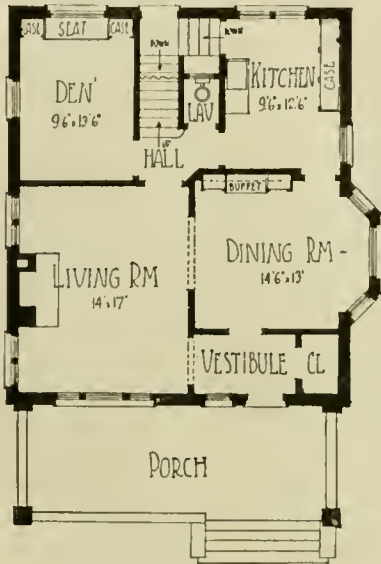
Success in using dark green for trim with a white body depends on getting enough of the green on.



Arrangement of Bungalow, Size 32 Feet by 38 Feet.

Brick and Stucco Home of Seven Rooms

THE latest word in domestic architecture is illustrated on this page. It is a conservative design but very



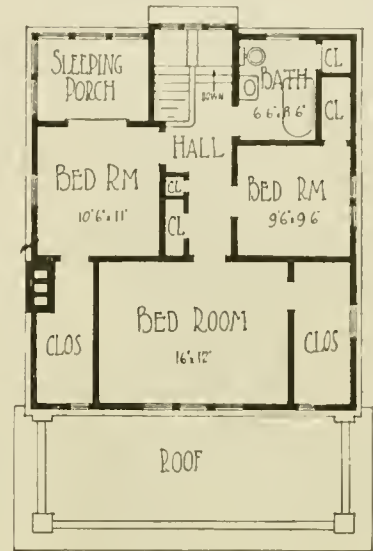
First Floor Plan

This residence can be built with ordinary balloon frame of wood and the brick facing put on as a veneer coat. In this case the cement plaster is applied to metal or wood lath nailed on to furring strips over the sheathing boards. Or if a most substantial structure is desired, the outside walls can be entirely of brick, in which case the cement plaster for the upper part is put on over the rough brick work.

The interior of this house is very attractive. A large built-in cupboard takes the place of the old fashioned pantry. There is a built-in buffet in the dining room, also a built-in window seat and corner cabinet in the den. There is a large open fire place with brick hearth and attractive mantle in the living room. Dining room has beamed ceiling and large bay window with built-in seat.

The second floor provides three large bedrooms besides the sleeping porch and front balcony. Note the

ing porches a good many will utilize the porch roof of this house by putting up a canvas tent canopy, or perhaps a more substantial structure with



Second Floor Plan



Attractive brick and stucco residence of popular design. Contains 7 fine rooms besides sleeping porch.. Note extra large amount of closet space. We can furnish complete set of blue-prints and typewritten specifications for \$12.00. Ask for Design No. 9532 H.

graceful and beautiful. Rough texture brick was used from the foundation up to the second story window sills. From there up the siding is cement plaster. The roof is a low pitch hip-roof with wide extending box cornice.

extra generous amount of closet space in this house. This is a feature that makes a great hit with the ladies.

The general dimensions of this residence are 31 by 33 feet.

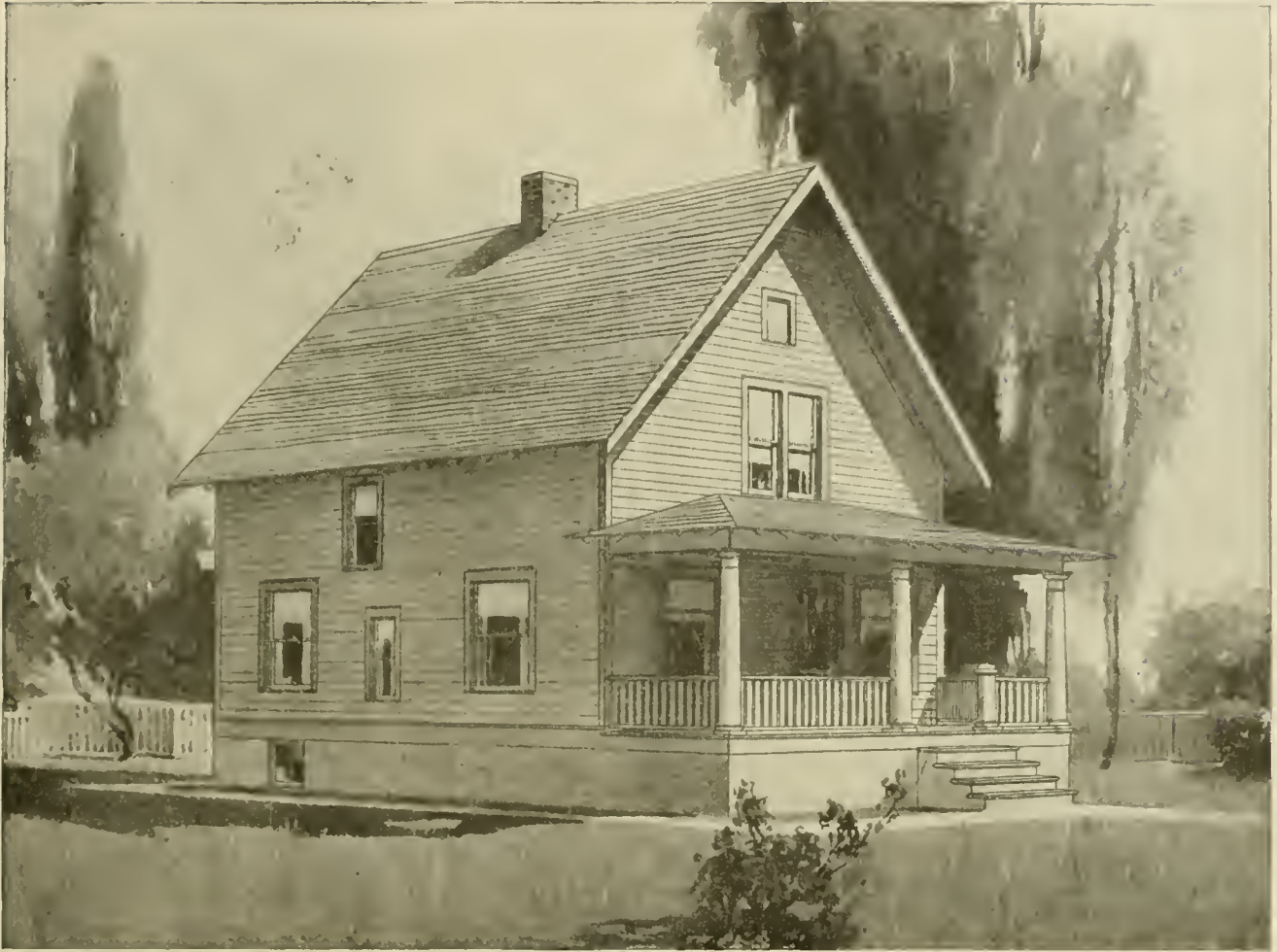
With the present demand for sleep-

shingle roof and three sides screened or, in the winter, glazed in.

If this were done the three windows of the front bedroom should be made French windows, extending clear to the floor.



Here is a Homelike Small Living Room Having Brick Mantel with Hammered Iron Hood and "Bungalow" Side Lights; Simple Ceiling Beams are Attractive; Waist-high Opening Into Hall can be Seen at the Extreme Left—this is a Good Trick for Widening a Colonnade Doorway in a Small House.



Six room house with good cellar and very pleasing front veranda. Size 26 feet by 30 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6580 H.

Low Cost Village House

Conditions sometimes are such that a house must be built for a stipulated price. That price must come within the means of the builder. This design is intended to offer as much house for the money as possible. For this reason, the house is plain and straight and all the carpenter work is square and straight forward, so that every cut of the saw and every blow of the hammer shall count in the building.

A good solid wall under a house is an economy; so this design calls for a good cellar as a proper support for a plain house. In front a good veranda adds very much to the appearance as well as comfort. It is quite possible to embellish a low cost house with a veranda in such a way as to add several hundred dollars to the value of the property.

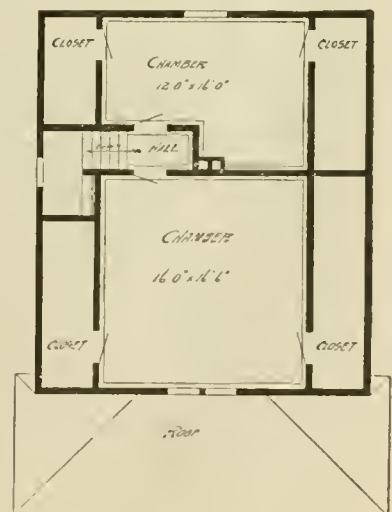
Sometimes when there are old persons in the house, a bed room on the first floor is a great convenience. Besides this lower bed room, there is a good kitchen, a fair sized dining room and a pleasant, comfortable parlor. Up-stairs, the plan shows two

large bed rooms with any amount of closet room. Where there is no attic extra large storage closets like these are appreciated.

A person can build a house like this and screen the front porch with climbing vines, plant shrubbery along the sides and give it a neat, attractive appearance such as many expensive houses do not possess.

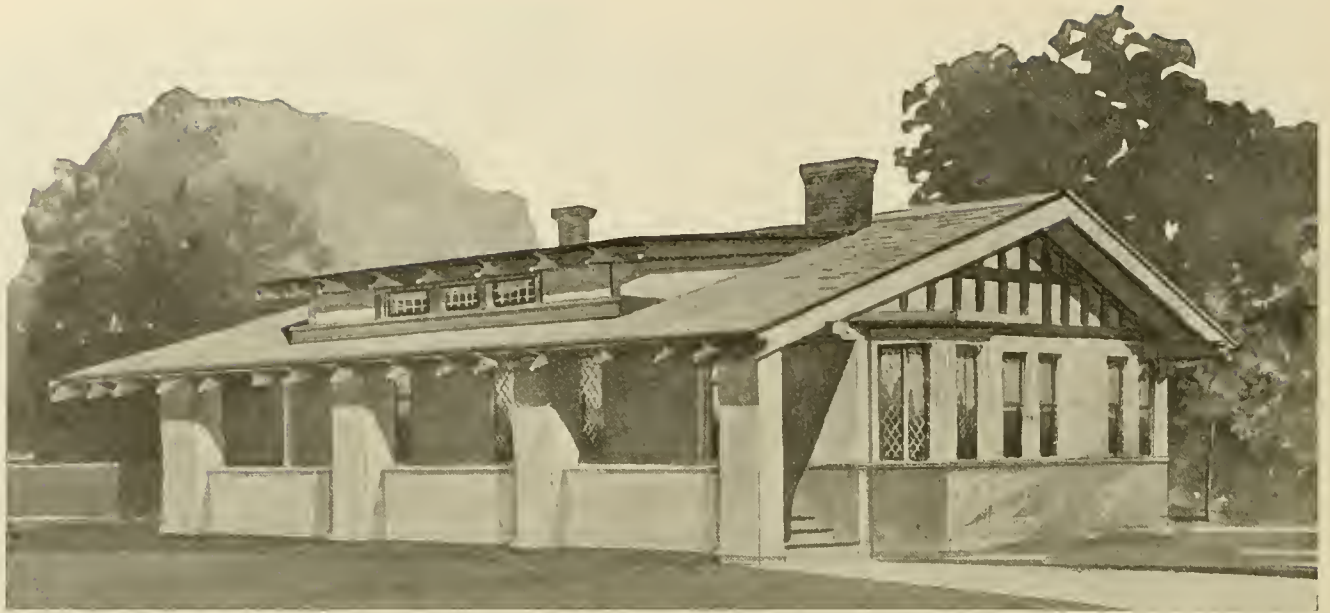


First Floor.



Second Floor.

Arrangement of house, size 26 by 30 feet.



Western bungalow that is very well liked. Size 38 by 36 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. Ask for Design No. 5002 H.

Western Bungalow

There is considerable room in the bungalow shown in design No. 5002H, although the ground space is only 38 feet by 36 feet 6 inches.

Modern houses must have a good sized living room that is either partitioned off as a living room or arranged in connection with the hall, or expanded in some other way. In this plan, the living room, hall, and dining room all open together; the divisions are marked only with grills that do not interfere, moreover adding considerably to the ornamental effect.

Modern furniture is larger than the old-fashioned sort, and architects are obliged to make room for big davenports, chairs and cabinets of different kinds.

This living-hall-dining-room has a beam ceiling and is decorated as one room. It makes a fine room, 12 feet in width by nearly 38 feet in length. The furnishings call for three rugs of the same pattern and furniture to match, that is, if a mahogany piano is placed in the hall, and upholstered chairs in the living room, there should be a mahogany dining table and upholstered mahogany dining chairs in the dining room end of this great room.

It offers a problem in decoration that any good housekeeper would be delighted to tackle, provided she has the necessary money to do justice to the occasion.

The two window seats, of course, will be upholstered to match the general color scheme. These seats take the place of chairs to a certain extent, and help materially in the general decorative plan. The fireplace may be finished in colors suitable to work in with the furnishings.

The arrangement of the bath room and bed rooms is different from most bungalows. One principal requirement demanded of architects is to separate the sleeping rooms from the living rooms. It is not easily done, but this plan solves the difficulty

splendidly, and does it without a long, dark hallway. The bath room is conveniently arranged for each bed room without being connected with any.

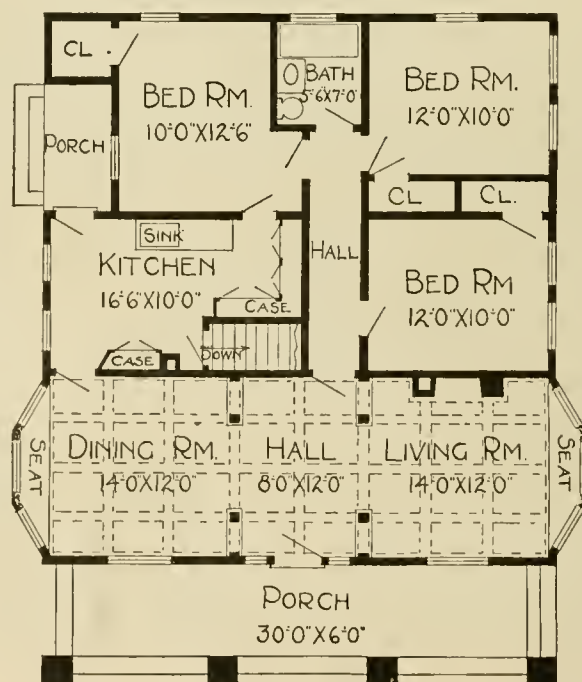
It is not necessary to have a pantry when the kitchen is finished with a built-in cupboard divided off in compartments as this plan provides. With a china cabinet in the dining room, the two cases in the kitchen and shelves in the cellar stairway are considered by many house keepers to be more convenient than a regular pantry. In connection with the kitchen is a built-in porch which also makes a very comfortable work room when it is carefully screened.

A very decorative feature of this plan is the veranda which reaches clear across the front. A veranda as long as this offers room for porch furniture that is comfortable and attractive in appearance.

It is impossible to have good looking outdoor furniture unless there is room to place it in such a way as to look and feel comfortable. So many families would like to have a swinging porch seat, 6 feet in length, inside measurement, and wide enough to make a comfortable lounge, but few houses afford the necessary space.

The rooms in this house are all comfortable, well lighted, and well arranged for easy maintenance.

Altogether, the design and plan of this western bungalow are very satisfactory.



Floor Plan of Bungalow, Size 38 by 36 feet 6 inches.

Narrow Lot Stucco Bungalow

A bungalow of very striking and cozy appearance is shown in the accompanying illustrations. The most striking feature, from the outside, is the porch which is covered by the main roof and extends across the total width of the house. This gives the impression that the porch is built into the house instead of being detached, as most porches are. This is an effect that is very well liked by many people. The porch and house are built well off the ground, which adds to this effect and at the same time increases the size of the basement and makes it easier to light.

On the sunny side of this house are three rooms; the living room, dining room, and kitchen. On the other side are two bedrooms with a bath in between. There is a small reception hall as you come in from the porch. This has a door in the back that opens into one of the bedrooms, and a cased opening on the side that furnishes the entrance to the living room. There is also a closet on the opposite side of the reception hall, from the opening going into the living room, for wraps.

The living room presents a very pleasing aspect as you enter. On the far side of the room is a brick fireplace of generous proportions. The fireplace is in the center of the wall. On each side of it are bookcases which extend to the end walls. Above each bookcase is a window, which can be

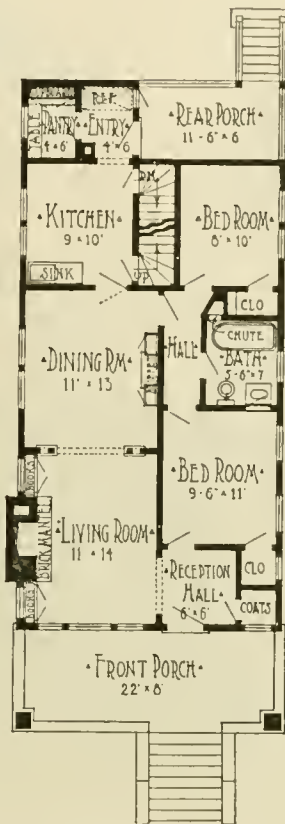
finished in leaded glass. The whole effect is very attractive and adds much to the beauty of this house.

The entrance to the dining room is through a wide cased opening from the living room, and the two rooms can be used together when the owner is entertaining. There are two windows opening into the dining room and opposite them is a buffet which is built against the wall.

The stairs to both the basement and the attic are in the kitchen. The basement is large and can be used in many ways. There is a storage room in the attic that will take care of the many things that everyone insists on saving and which are never used. There is a dormer window which provides light for this room. It faces the front of the house, as shown in the illustration.

The kitchen with all its necessary accompanying rooms is very well arranged. In back of the kitchen are two small rooms. One of these is used as a pantry and the other is an entrance from the porch. One of the modern conveniences so much in demand among housewives is shown in connection with the refrigerator. It is an opening from the outside so that the refrigerator may be iced without having the inconvenience of the iceman going through the kitchen.

This bungalow is particularly suited for a narrow lot, because of its width, which is only 22 feet.



Floor Plan, Size 22 ft. by 45 ft. 6 in.



Comfortable Cement Stucco Bungalow of five rooms, 22 by 45 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6699 H.



Southern style bungalow. Size, 40 by 49 feet, with five rooms and two good porches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6086 H.

Southern Style Bungalow

In the warmer sections of the country, bungalows are better appreciated; and they are built differently. In the plan of this Southern bungalow, the hallway runs straight through the center of the house from the front to the rear.

The bed rooms are on one side of this hallway, and the living rooms are on the other side. There are five rooms in all, consisting of two bed rooms, living room, dining room and kitchen.

The kitchen and dining room are connected by way of the pantry, vestibule fashion, with two doors which are intended to prevent odors from cooking and the heat from the kitchen from reaching through to the dining room.

As this design is intended for a mild climate, provision is made in every room for heating is by means of open fires. The fire places are used after the old style of Southern houses that have been heated by fire place fires for two hundred years.

The laying out of this house gives an opportunity to build two good sized porches, one at the front and the other at the back. These porches add very much to the comfort of the

house as well as general appearance.

In the South, there are a great many days during the year when it is very

retreat either one way or the other, according to the direction of the sun and wind.

In building a bungalow, it is difficult to have enough closet room. Storage room always is at a premium in a bungalow. However, this design does very well in this respect, because there is an extra closet convenient to the bedrooms opening into the back end of the hall.

In this plan, the kitchen has received very careful attention. A kitchen is a woman's work shop. It should be one of the most attractive rooms in the house because a great deal of time is spent in the kitchen. This arrangement has a door to the side porch which offers an opportunity to take part of the work out into the open air.

Both porches in this plan are wainscoted and have square posts, so it is easy to fit screens in panel form. Some housekeepers have the rear porch carefully screened and furnished with comfortable, homelike furniture that makes this part of the house very attractive to members of the family and their intimate friends. The front porch is more elaborately furnished and is held sacred for greater formality.



Floor Plan of Southern Bungalow,
Size 40 by 49 feet.

pleasant to remain outdoors if you have a good, comfortable porch and some easy chairs, with a roof to shut out the sun and a portion of the bright light. Two porches as arranged in this design are connected by the hall through the house, an arrangement that offers a pleasant

Seven-Room Gambrel House for Narrow Lot

All things considered, the gambrel roof house works out best for the moderate cost dwelling where every inch

of space must be utilized to the best advantage. The rooms on the second floor are full size, and yet, being "under the roof" they don't cost very much.

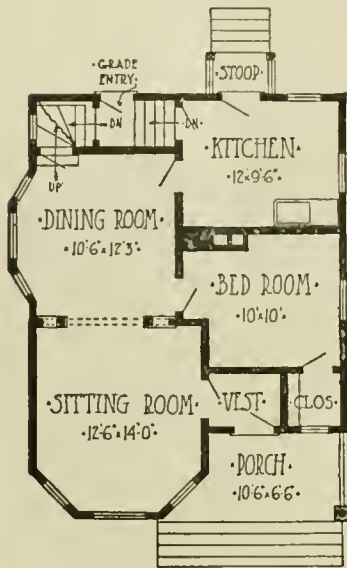
Much depends on how a gambrel

house is designed. This one is in perfect harmony with itself. The large octagon bay in front, and also the one at the side seem to go naturally with the shape of the roof.

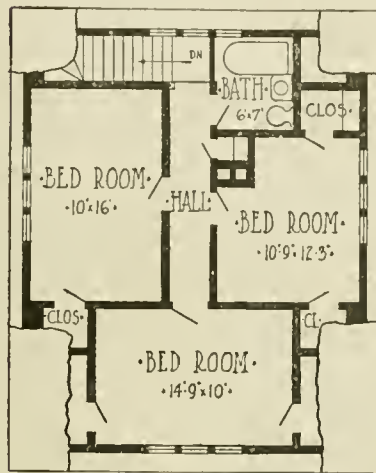
Nicely arranged small residences to go on a narrow lot are scarce. This design measures only 24 feet in width. The length is 31 feet 6 inches. On the first floor are four good rooms; sitting room and dining room opening together, conveniently arranged kitchen, and a small down-stairs bedroom with clothes closet.

This is a snug home for cold climates, as the front porch is so well protected, and the vestibule keeps the cold air from the entrance out of the sitting room.

There is no reason for giving up the best part of a house to the stairway. Here the stairs are placed at the rear. They go up from the dining room, which is handy and desirable in a house of this size. On the second floor are three good sized bedrooms, bathroom, and six clothes closets.



First Floor Plan.



Second Floor Plan.



Seven-room gambrel roof dwelling. Size, 24 by 31 feet 6 inches. First story sided; gable ends and roofs shingled. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. Ask for Design No. 6542 H.



Artistic six-room stucco residence with English half-timber paneling. Size, 28 by 33 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. Design No. 6544 H.

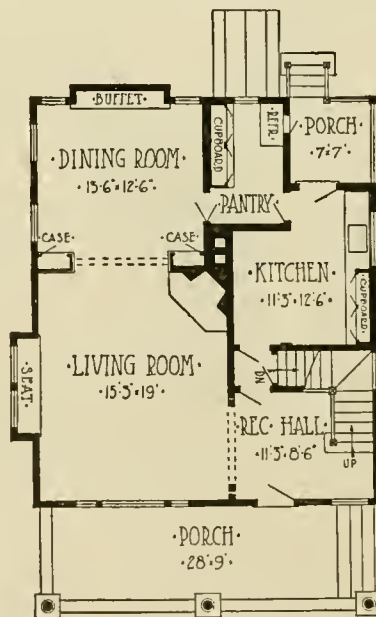
Stylish Six-Room Paneled Stucco House

The popularity of cement plastered or stucco houses continues. This one is given an ornamental appearance by the use of exposed timber paneling in the upper story. This is known as English half-timber work, although the construction is, of course, different from the old Elizabethan work after which it is modeled.

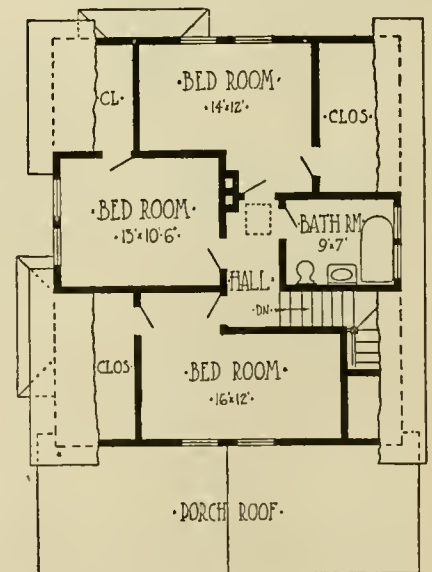
Imagine this residence with cement work painted cream color or tan, and the trim painted dark brown or olive green. Or many prefer to leave the cement its natural gray color, painting the wood trim to contrast strikingly.

Of stylish up-to-date exterior, the inside arrangement of this house is in every way modern, making good the promise of the outside. Entrance from the porch is into a square reception and stair hall. To the left is the large, well lighted living room with open fire place in one corner. The dining room is in the back. Although centrally located, the kitchen is well insulated from the other rooms. The pantry separates it from the dining room and the cellar stair hall from the front of the house. This effectively cuts off both noise and cooking odors.

Housewives will approve of this kitchen with its broad, well lighted work shelf and sink, and handy built-in cup-



First Floor Plan.



Second Floor Plan.

Arrangement of Residence. Size 28 by 33 Feet.

board. The refrigerator is in the pantry, and is iced from the back porch.

On the second floor are three good sized bedrooms, bathroom, and three extra large closets.

The outside dimensions of this house are 28 feet by 33 feet, not including porches. This makes a very desirable residence for a city or suburban building lot of 30 feet or wider. While it

is a decidedly economical house to build, it has an up-to-date, "dressy" appearance which discriminating home builders appreciate. The story-and-a-half treatment keeps the lines of the building low and broad. This place would never have that bleak appearance, so often carried by taller houses, especially when new, before the shrubbery has had time to grow.



Square, hip-roof dwelling; six rooms; substantial frame construction. Size, 26 by 31 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blueprints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6537 H.

Square Hip-Roofed Design

ON this page are perspective view and floor plans of a six-room dwelling of a most modern type. It is square, compact, dignified. It is painted dark, with light trimmings. The roofs, both on the porch and the main roof are of the hip style and of low pitch. A novel and popular feature of the exterior trim is the continuous band just above the first story windows and also at the second story window sills.

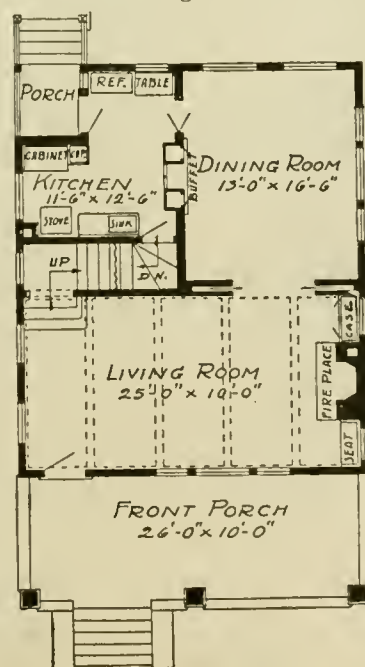
In designing this house it was the desire to keep down the cost as much as possible, and still maintain a feeling of solidity, interior roominess and comfort in the finished building. By adopting the square type and following simple lines this splendid result was obtained.

The general dimensions of this house are 26 by 31 feet. It is two full stories in height, and is placed over a cemented basement. Plans show six well arranged rooms. The large living room is a feature of the first floor. It is decorated with a beamed ceiling, brick fire place, and built-in book case and chimney corner seat.

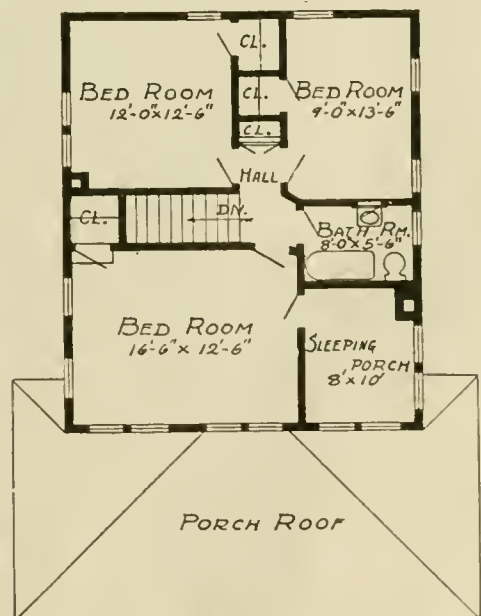
Double sliding doors separate the living room and the dining room. This

dining room is a very well lighted apartment, having an attractive built-in buffet. The kitchen is conveniently placed along side of the dining room and has built-in

cabinet, cupboard, and ice box arranged for outside icing. On the second floor are three large bedrooms, each arranged with cross ventilation.

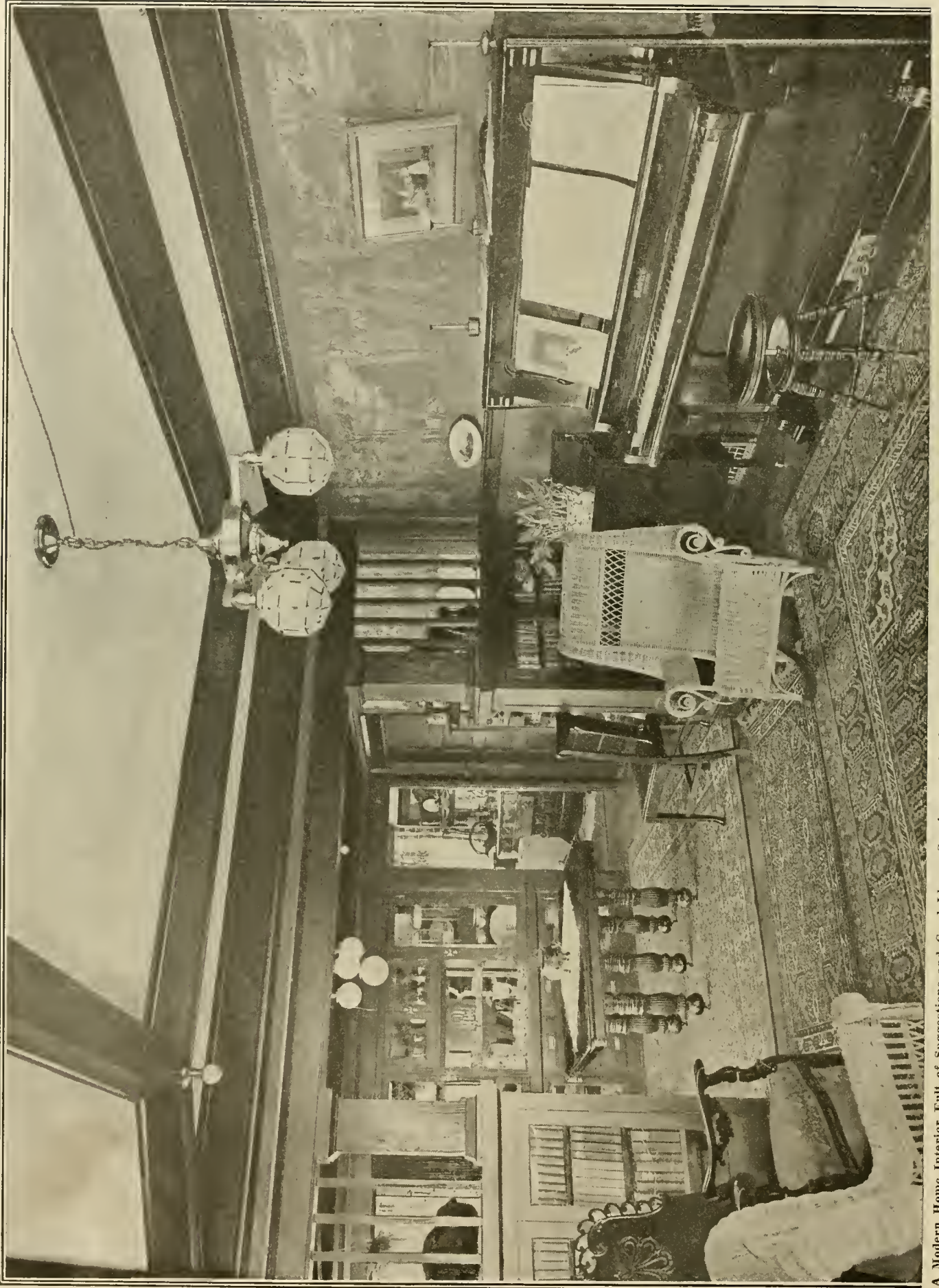


First Floor.



Second Floor.

Arrangement of Modern Six-Room House, Size 26 by 31 Feet.



A Modern Home Interior Full of Suggestions and Good Ideas. Spaciousness is the Keynote. Living Room is Separated from the Dining Room Only by "Bookcase Colonnade." The Rich Landscape Panel Decoration Adds to the Feeling of Size of these Rooms. No money Spent in Interior Decoration Goes Further Than in One of these Wall Paper Landscape Friezes. The Beam Ceiling Work and Placing of the Lighting Fixtures Should be Noted.



Seven-room, two-story-and-a-half, modern cement stucco residence. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$15.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and right and left side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. In ordering, mention Design No. 6547 H.

Seven-Room Modern Cement Stucco House

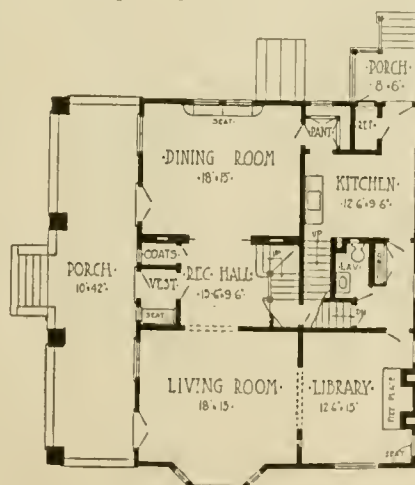
As a material for the construction of dwelling-houses, cement has in very recent years forged its way into a popularity that has had almost revolutionary effects in the building industry. This has been a result of its recognized powers of endurance and freedom from all danger of deterioration when properly mixed and applied, its fireproof qualities, its adaptability to any and all types of architectural effect, its relatively low cost as compared with the steadily advancing cost of lumber and other old-fashioned materials—and possibly, also, to the charm of mystery about it, that appeals to everyone who likes to have a part in producing his own building materials and to do things with his own hands.

And yet cement is not a rival claiming to supplant brick and terra-cotta and stone and timber, but rather a supplementary building factor capable of being worked into harmonious design in combination with these time-honored materials. This house proves

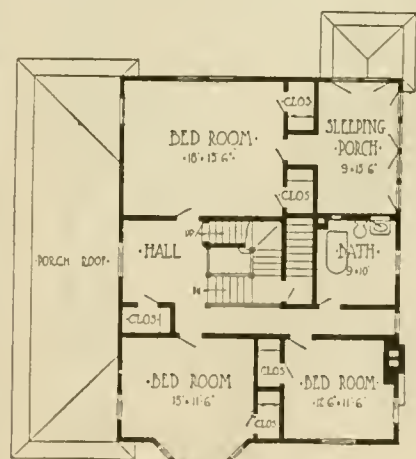
it—with its brick foundation, its wooden paneling, door and window frames, belt-courses, and other trim.

Reception hall is in center, entered through vestibule from wide front porch, which also opens directly into the rooms on each side. At left is large dining room, with window seat, a door opening to kitchen in rear.

On right is a commodious living room, with bay window, en suite with good-sized library with its ample fireplace. There are front and back stairs, to a common landing; lavatory on first and bathroom on second floor, which has also three large, well-lighted bedrooms and sleeping porch.



First-Floor Plan



Second-Floor Plan

Seven-Room Cement Stucco House, Size 32 by 42 Feet.



Cement block cottage of semi-bungalow type. Six rooms and two attic storerooms. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. In ordering, mention Design No. 6546 H.

Cement Block Bungalow

In the building world, there is no term more familiarly used these days than the term "bungalow." Originating in the single-story country house of India, imported into California with modifications suited to modern American life, this type of dwelling

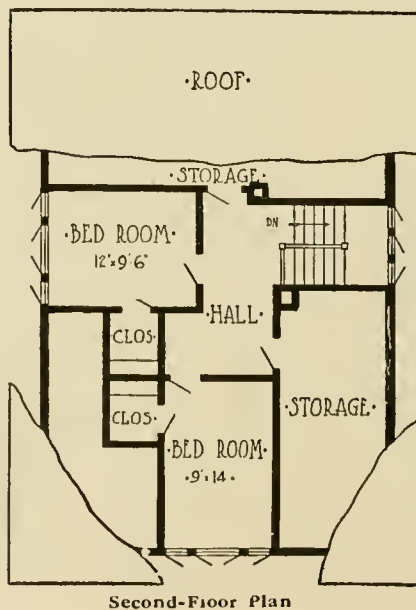
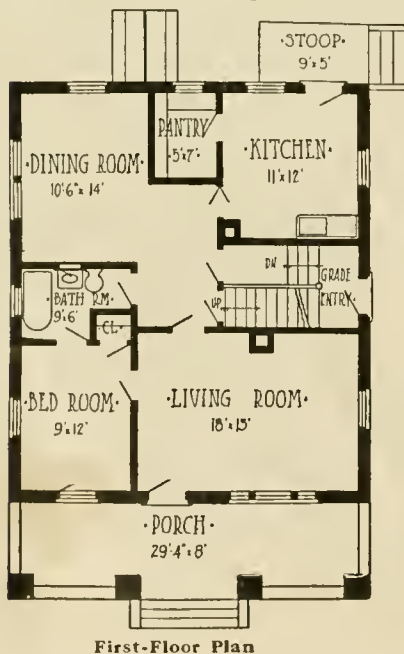
has finally won its way to favor throughout the United States, and even in parts of Canada, varied, however, in its details to adapt it the better to the varying climate of different sections and the complex housing requirements of our more or less crowded urban centers.

In a general way, the bungalow

may be described as an unpretentious house, with liberal porch space, having one or more bedrooms on the ground floor, and in which whatever attic or second-story space the design provides is utilized for sleeping purposes to a considerably less extent than in the average cottage or house.

A very commodious and well-arranged little bungalow, containing six rooms besides two attic storerooms, is the one here shown. It is built of hollow cement blocks so that it is cool in summer, warm in winter, and dry at all times. Cover the roof with cement, asbestos, or metal shingles, and you have a home practically immune to fire from the outside—whence so many such disasters come.

An 8-foot wide porch extends across entire front, enabling family to spend much time in the fresh air. From the porch, you enter large living room, off which, at left, opens fair-sized bedroom, with clothes closet. Bathroom, entered from bedroom, also opens off central hallway which connects living room with dining room and with kitchen. From hallway, steps lead down to side entrance at grade, and thence to basement; and from same hallway you ascend stairs to second floor. Here are two good-sized bedrooms, well lighted.



Cement Block Cottage of Semi-Bungalow Type, Size 29 ft. 6 in. by 42 ft.



A bungalow style cement plaster house, containing six rooms. A stylish little home of moderate cost. Size, 24 by 32 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6548 H.

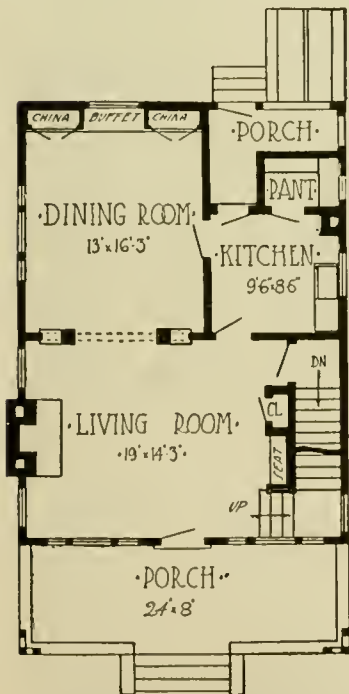
Bungalow Style Stucco Cottage

A story-and-a-half cottage of true bungalow appearance is offered. It is one of the most popular little houses of the year. Three rooms are provided on the first floor and on the second floor three bedrooms, bathroom, and three closets are worked in under the roof and in the large roof gables.

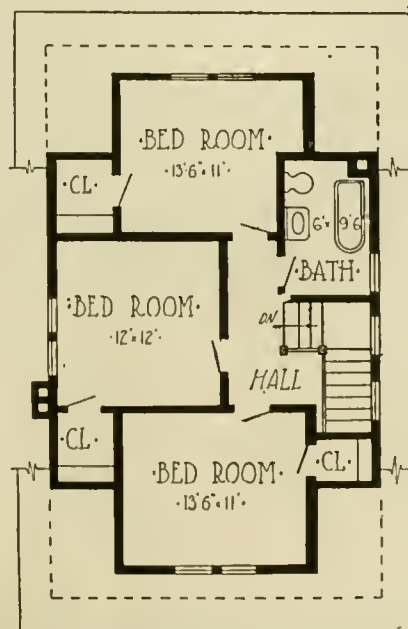
The front porch is large enough to be thoroughly useful. In the summer time it could be easily screened. Entrance is direct into the large living room. The dining room is back of this through a tasteful colonnade opening. The kitchen is just the right size to save steps.

In construction, this bungalow is cement plaster on metal lath. The brick chimney makes an interesting feature. Laid up of dark brown face bricks, it makes a pleasing contrast against the cement plastered walls. The window sash are painted apple green to give a little touch of color to the place.

The bungalow style of this little dwelling is accentuated by the wide projecting open cornices with rafter ends showing, also by the unique porch columns—strongly braced posts.



First Floor Plan.



Second Floor Plan.

Arrangement of Six-Room Cement Plastered Bungalow. Size 24 by 32 Feet.



A Living Room with Music Room Alcove, Showing Several Unique Ideas of Interior Trim. The Heavy Timber Craftsman Arch Seems Exactly Appropriate for a Bungalow. It Harmonizes with the Timbered Ceiling and Combines with the Book Cases to Make a Colonnade Opening of Unique Interest. The Fireplace in This Room is Also Worth Study. It is Built of Brick with Ornamental Terra Cotta Inserts. The Mantel Shelf is Wood.



Substantial eight-room brick residence of modern design. Size, 36 feet 6 inches by 30 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$12.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6549 H.

Eight-Room Modern Brick House

A thoroughly modern home design, expressing the very best ideas of residence planning is presented herewith. This is a square-type, hip roof, brick house. Not an inch of space is wasted and nothing has been put on for sake of appearance or just for show. The

beauty of the building depends on the correct proportioning of the essential parts of the building, themselves.

This is in line with the modern tendency in architecture. Everything is simple and strong, and is present in the design because it is really needed; nothing is "tacked on," as they used to do twenty years ago.

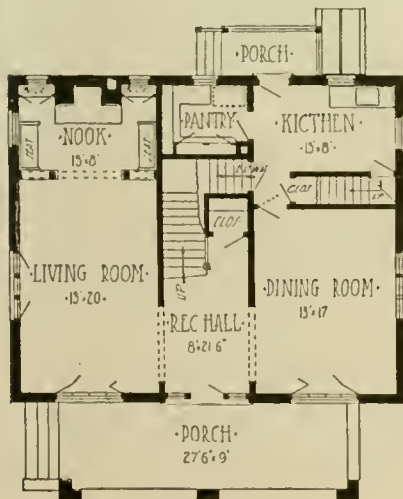
Several elements in the design of the exterior are prominent. The grouping

together of three casement windows in a single window frame is attractive from without and also lights the room extra well. The broad, hip roof porch, extending clear across the front, makes the front attractive; both the porch and the hip roof dormer above break up the severe plainness of the face of the building. A moderate amount of dressed stone is used effectively for trimming. The second story window sills take the form of a continuous course of stone around the building.

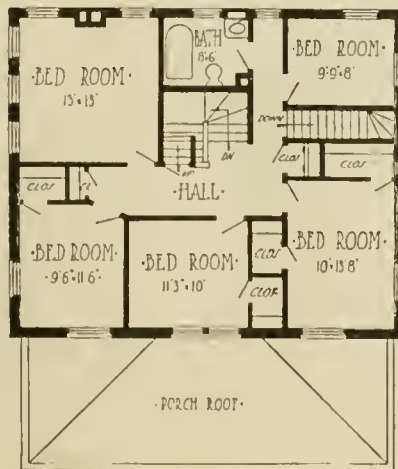
In its interior arrangement this house is what is called the center-hall type. Reception and stair hall occupy the center with broad cased openings on each side into living room and dining room. The living room, with its fireplace nook, occupies all of one side, an apartment 13 by 28 feet in size. The corresponding space at the other side of the house is given over to dining room and kitchen. The pantry occupies the space just back of the main stairway.

On the second floor are five bedrooms, six clothes closets and the bath room.

The stairway to the third story attic goes up out of hall on the second floor. There is space here for finishing off at least one chamber or playroom, and there will be plenty of storage space.



First Floor Plan.



Second Floor Plan.

Arrangement of Eight-Room House. Size, 36 ft. 6 in. by 30 ft.



Eight-room, popular style design, combining clapboards and cement siding. Size, 28 by 36 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6535 H.

Square Residence with Cement Plastered Second Story

ON this page are perspective view and floor plans of an eight-room house of very neat, graceful lines—an economical structure. It is 28 feet in width by 36 feet along the depth of

the lot, not including front porch. The exterior presents the popular combination of bevelled siding from grade up to second story window sills, with cement plaster work above up to the eaves.

The interior of this house is cozy and comfortable. A broad porch extends clear across the front. Entrance from the porch is direct into the reception hall. To the right, through a broad doorway is the large living room with its open fire place and built-in book case.

The dining room is directly back of the hall; it has a square bay window with four outward opening casement windows. The kitchen is at the rear corner of the plan, and is separated from the dining room by a large pantry. There is a back stairway from the kitchen in addition to the main stairway in the front hall.

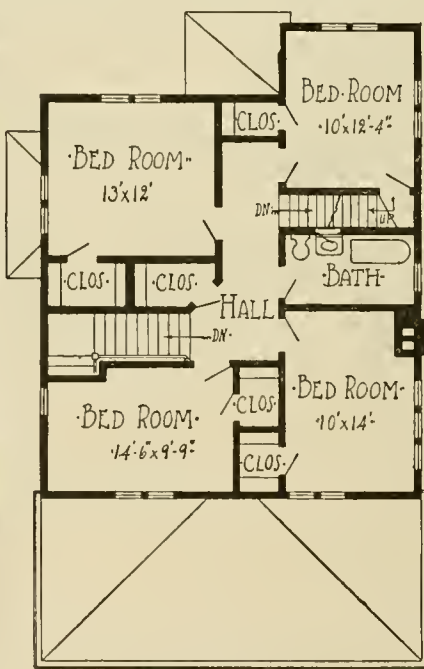
Upstairs are four very nice bedrooms with ample clothes closets.

Every bed room has cross ventilation, with windows on two sides. The extra generous supply of windows throughout this house, both upstairs and down, stamps it as right up-to-date.

This house design is one of the most attractive and popular. It is absolutely free of ornamentation and elements that complicate the construction of a house, and so is about as economical as any structure of this size could well be.



First Floor.



Second Floor.

Arrangement of Eight-Room House, Size 28 by 36 Feet.

Small Southern Home

Complete Details of Construction and Finish on Two Following Pages.

Southern type houses are sometimes appropriated by builders in the North. A great many homes in the North are built after Southern ideas of comfort. Plenty of veranda room outside and sufficient room inside to accommodate a family of four or five without crowding, briefly describes the story-and-a-half house illustrated in Design No. 6621. It is 34 by 28 feet on the ground with a "gallery," as some Southern people call a veranda, that reaches clear across the front and turning at the corner, extends all along the side of the house.

Every home should have a fireplace to promote cheerful comfort on cool evenings and rainy days, especially in the spring and fall of the year. In this plan the fireplace is built into the outside wall of the house and the chimney extends up through the end gable roof projection.

It is unusual to find five bedrooms in a house of this size. Advantage is taken of the different gables to plan so many sleeping apartments.

It will be noticed that no waste room is permitted anywhere. The stairway is a model of modesty in this respect. While the open baluster and rail give a pleasing effect from the living room,

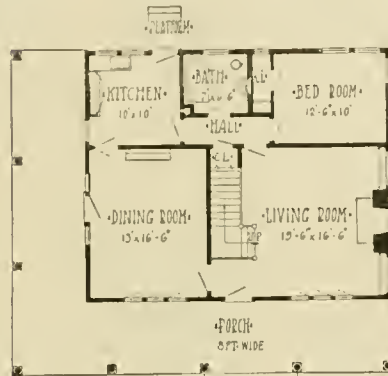
the space occupied by the stairway has been whittled down to the limit.

In outward appearance this little house is very neat and attractive. The combination of clapboards for the first story and paneled stucco work for the gables, together with the mullion windows, give a very pleasing effect. The use of mullion windows has grown into a regular fashion of late and it is a good fashion, too. The windows in this house are mostly of the mullion type, both lower and upper windows. They seem to be especially designed to fit this particular style of house. That remark has been made in connection with mullion windows in other houses of very different design. Probably no other style

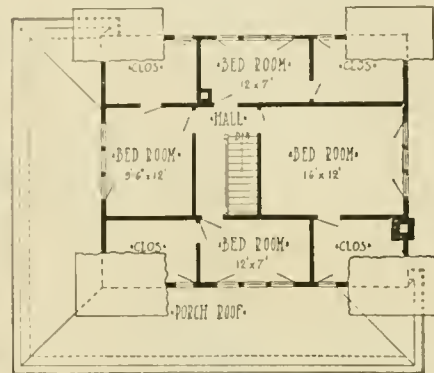
of window lends itself with so much grace to the ornate improvement of modern houses.

Generally speaking, American people appreciate utility even at the expense of artistic appearance. Happily in the case of windows this fashion combines practical utility with pleasing effects. For years architects have labored to introduce sufficient light and sunshine into dwellings without using windows so large as to suggest factory buildings. The capture of mullion designs and their adaptation to modern house building has met all requirements while it has gained the appreciation of house owners everywhere.

Details of this design on two following pages.



First Floor.

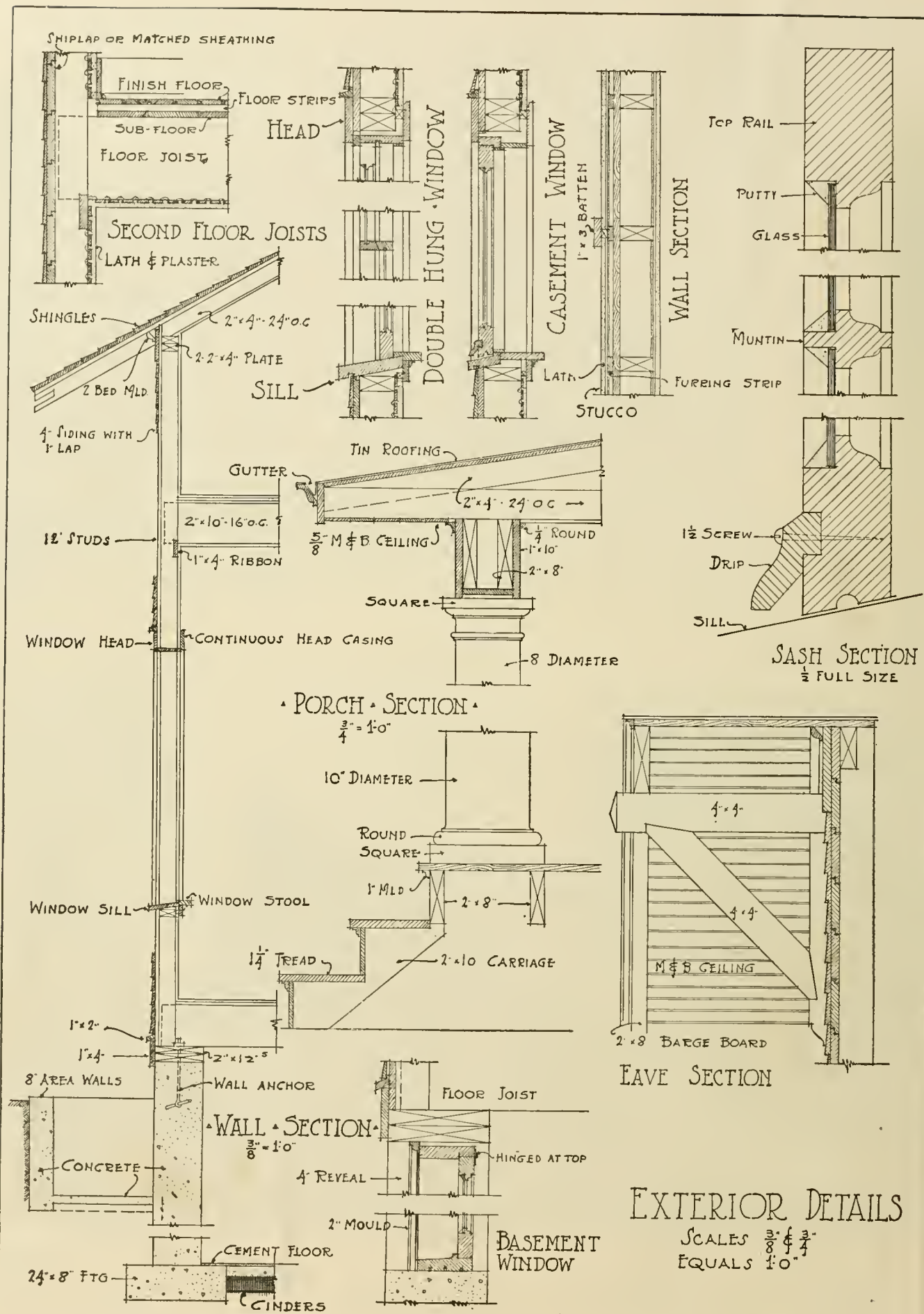


Second Floor.

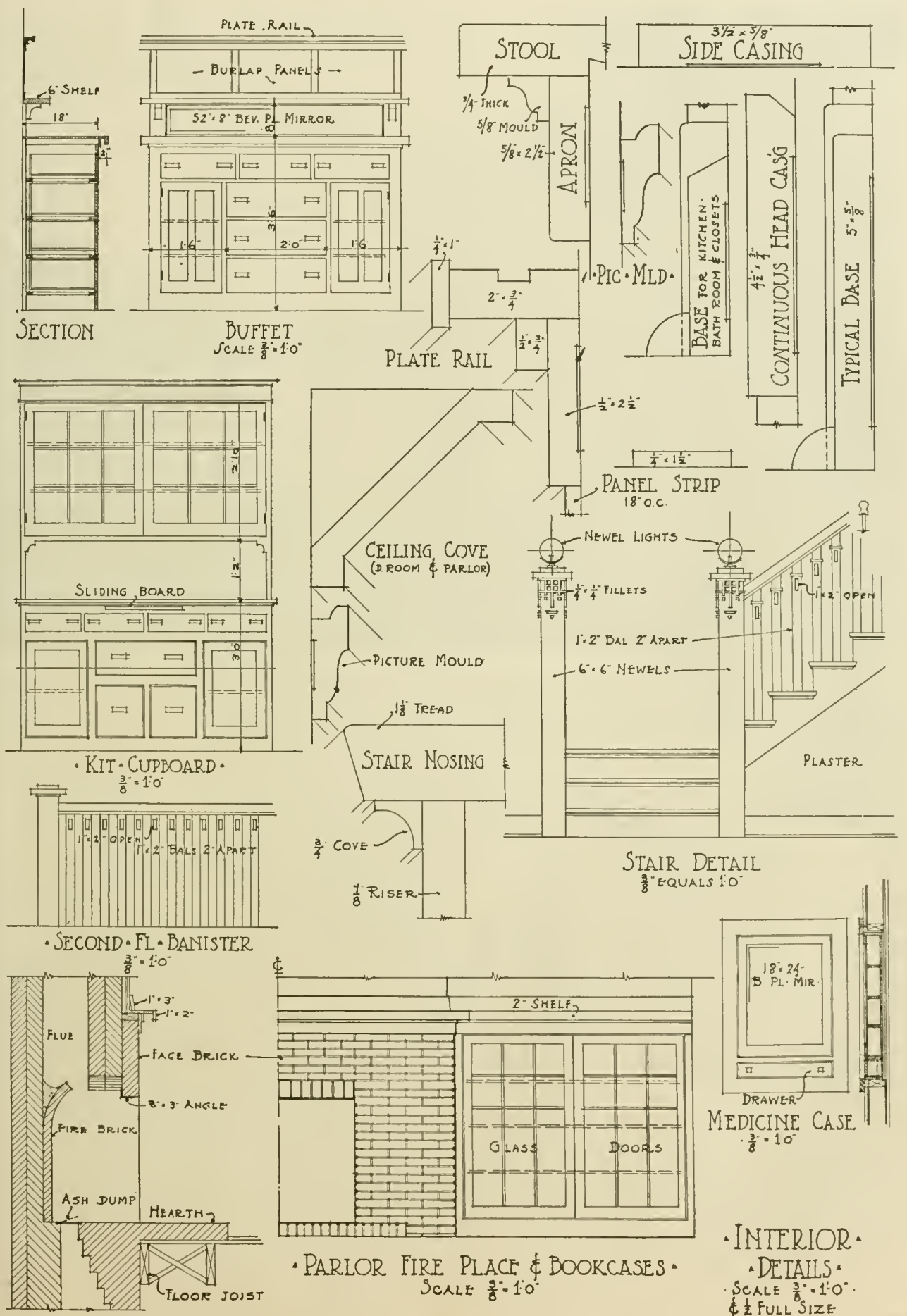
Arrangement of House, Size 34 by 28 Feet.



Southern type home of moderate size and reasonable cost. Size on the ground 34 by 28 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6621 H.

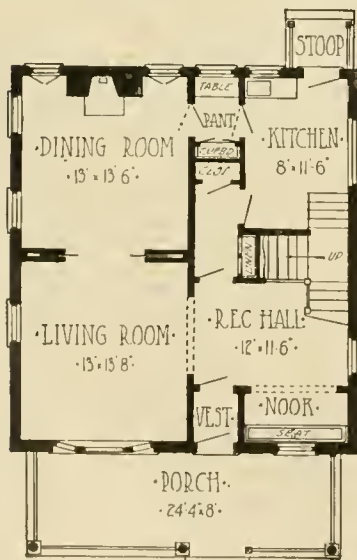


Exterior Details of Construction, to Scale, of Southern Style Residence (Design No. 6621 H.).

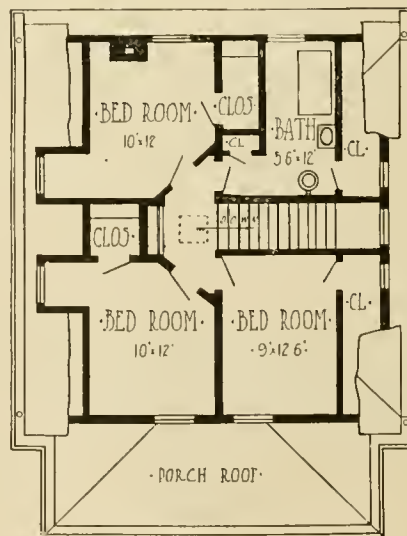




Seven-room, gambrel roof, brick and frame dwelling. Size, 27 by 30 feet. A substantial looking little home. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6550 H.



First Floor Plan



Second Floor Plan

Arrangement of Seven-Room Gambrel Roof Dwelling, Size 27 by 30 Feet

Brick and Frame Gambrel Roof Dwelling

There is a look of substantial worth about this seven-room house which strongly appeals to home buyers and

renters. Nevertheless, the cost of construction is no more than for many flimsily built, irregular shaped houses. The main walls are of brick construction up to the second floor. All of the

second floor is within the confines of the double gambrel roof. The three gable ends are sided with wide board siding and the roof is shingled.

The floor plans will show how nicely the interior of this house is laid out. On the first floor we have front vestibule opening into a serviceable reception hall which has an alcove nook with built-in seat. To the left is the living room and back of it the dining room. The kitchen occupies the third corner and is separated from the other rooms by the pantry and the back hall. Front and back stairs go up five steps to a common landing and from there up the single flight serves for both. On the second floor are three nicely arranged bedrooms, large bathroom and an abundance of closet space.

This building can be constructed in several different ways—just as the owner prefers. Solid brick walls for the first story or brick veneered walls make an equally desirable house. Then for the gable ends many will choose cement plaster on metal or wood lath in preference to the wide boards. A siding of shingles would also work in here very appropriately.

Neat Six-Room Story-and-a-half Cottage.

A pleasant little dwelling that will go nicely on a narrow lot is illustrated. It is just about as simple and free from complicated features, that run up the cost, as any house could well be. Its rooms are all pleasant and convenient and there is no waste space.

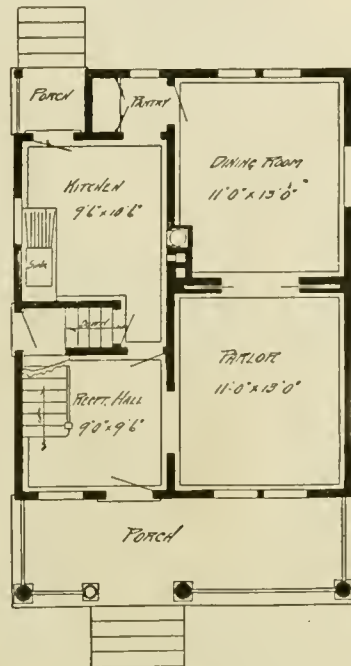
A house of this kind is inexpensive to build and can be rented or sold at a reasonable price and still give a margin of profit to the owner or builder. As the width is only 22 feet, it will go on a narrow lot very nicely. A narrow lot usually means houses crowded in rather close together; and so in this design the principle lighting is from the front and rear.

The outside appearance of this little dwelling is very attractive: a frame house, with wide clapboard siding, resting on a cement foundation. The shingle roof has a slight curve just at the eaves. Wide fascia boards, sawed out with a flare at the bottom give the front gable end an ornamental appearance.

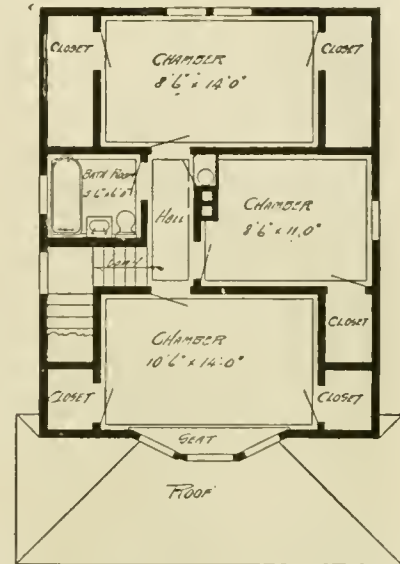
The front porch is generous in size and has neat porch rail and three turned columns. Entrance is into a square reception and stair hall; from this one

can pass into the parlor, through a cased opening to the right, or directly back into the kitchen. The dining room is just back of the parlor.

A special feature in this design is the laundry chute opening from a little closet across the hall from the bathroom on the second floor, also with an opening out of the kitchen on the first floor and leading down to the basement laundry.



First Floor Plan.



Second Floor Plan.

Arrangement of Six-Room House. Size 22 by 28 Feet.



Six-room, story-and-a-half, frame dwelling. Size, 22 by 28 feet. A cozy, substantial home. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6560 H.



Seven-Room Cement Stucco Cottage. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and right and left side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6555 H.

Seven-Room Cement Stucco Cottage

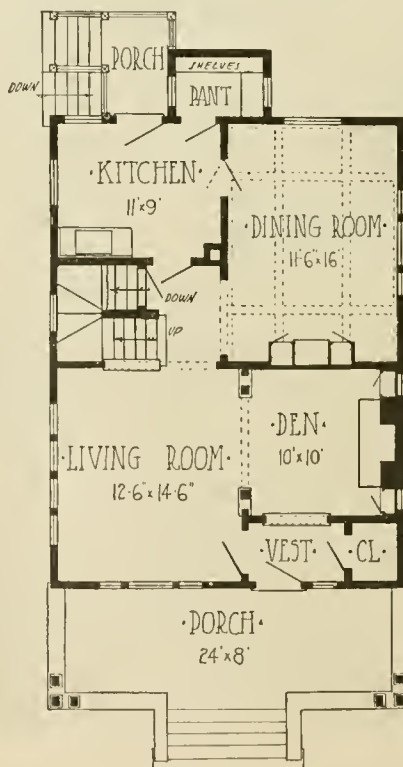
It is the people who live in a house that make the true atmosphere of a home, and give the place that personal touch of human interest and hospitality without which even the most ornate residence is an empty shell. And yet there is something of supreme value in the very design of the house itself, for it should form a fitting and dignified environment for its occupants.

The design here shown has all the requirements of a true home for a moderate-size family. It would look well in spacious grounds, but is adapted to a narrow lot. The exterior finish is in cement plaster, which may be delicately tinted, if desired, and relieved by harmonious color contrast in the wood trim. The size and layout of the rooms are very clearly shown in the diagrams.

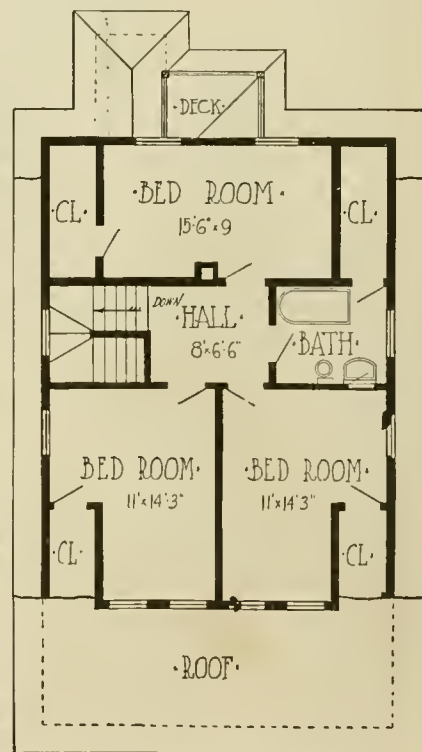
The entire front of the house is given up to a large living room, and a den with fireplace, the living room being entered from the vestibule opening off the porch. A central hallway, at rear of living room, connects it directly with kitchen and beamed-ceiling dining room. From it, also, stairs lead to basement and second floor, on which bathroom is centrally located off the hall and within

easy reach of the two front bedrooms, as well as the rear one. All the bed-

rooms are well lighted, and each has a large closet.



First-Floor Plan.



Second-Floor Plan.

Seven-Room Cement Stucco Cottage—Size 24 by 40 ft., including 8-ft. front porch.

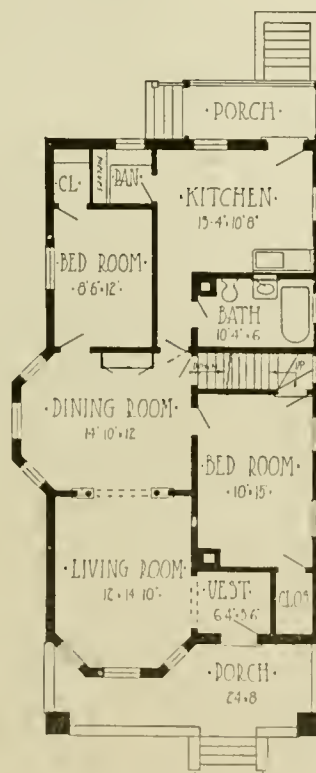


Five-Room Cement Block Bungalow. We can furnish complete set of blue-printed working plans and type-written specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; ground floor plan; front, rear, and right and left side elevations; wall sections; and all necessary details of interior trim. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6556 H.

Cement Block Bungalow

One of the controlling factors causing the present popularity of the bungalow type of dwelling, is found in the possibility that its one-floor arrangement gives of reducing the amount of housework to a minimum—which fits in very well with the present-day scarcity of household help.

In the little 5-room bungalow here shown, built of substantial concrete blocks, the layout of the rooms is calculated to lighten labor. The vestibule, entered from the shady porch that extends across the front of the house, leads directly into the living room, which connects through a colonnaded opening with the large dining room in the middle of the house. Two good-sized, well-lighted bedrooms, each with a clothes closet, are provided, both entered from the dining room. The bathroom is conveniently located, its door opening from the hallway that connects the dining room with the kitchen at the rear. The latter is well lighted and has a commodious pantry. The large back porch will be found a great convenience. Basement is reached by stairs from dining room, or through door from areaway under back porch. The attic, to which stairs ascend from front bed-



Ground-Floor Plan.

Cement Block Bungalow,
Size 24 by 40 ft., not including 8-ft. porch.

room, provides a convenient store-room.

Opinions differ on the question of the architectural possibilities of the cement block. The once common complaint of dampness and consequent discomfort and unhealthfulness as characteristic of the block structure, had its basis in the imperfect work that marked the early, unfortunate attempts at this form of construction. But with up-to-date, improved machinery for making blocks, with our present advanced knowledge of the essential requirements in proportioning and mixing ingredients and in molding and curing, and with modern methods available for rendering all concrete work as truly damp-proof and waterproof as work in any other material can possibly be made, there is no longer any foundation for this complaint.

There is, moreover, no doubt that with the honest avoidance of all mere attempts at imitation, with the use of appropriate faces and finishes, with due consideration of the possibilities of pleasing combination with other materials and of harmonious adaptation to surroundings in the selection of attractive outlines and color schemes, concrete blocks do lend themselves admirably to truly artistic effects in building design.



A Modern Living Room Design and Finished in the Best Taste. Woodwork is White Enamelled, Except the Window Sills, which are Mahogany. The Furniture is all Mahogany, which makes a very strong, agreeable contrast. The Fireplace Mantel is a Simple, Rich Design of Reddish Brown, Unglazed Tile, with Wooden Shelf and Side Columns. On Each Side of the Fireplace are Double, French Windows Opening Onto a Screened Porch. Open Book Shelves are Built in at the Corner of the Room.



Seven-room modern cement stucco residence. Two stories and a-half, with basement. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6563 H.

Seven-Room Cement Stucco House

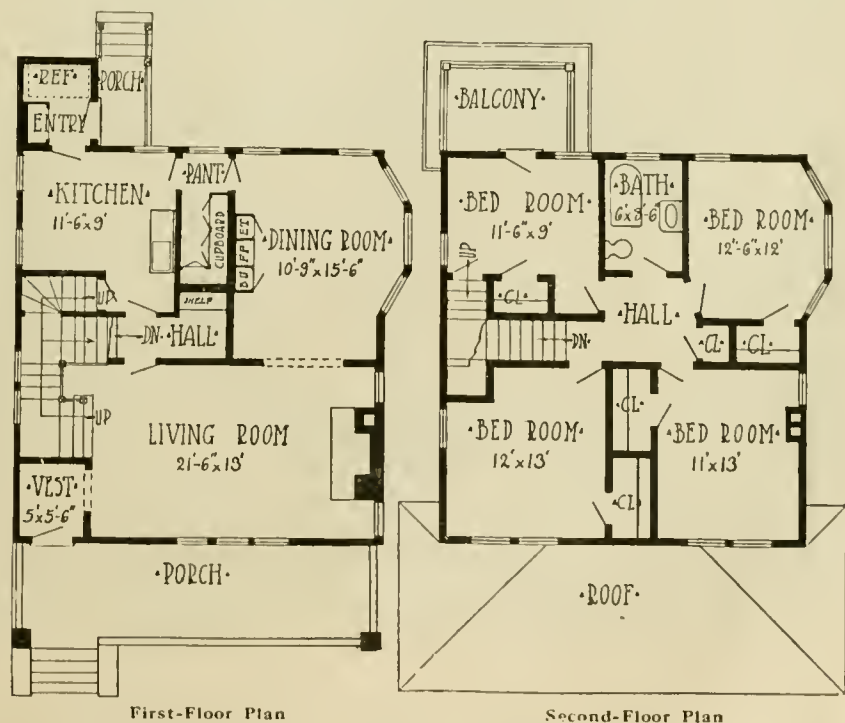
No observing person can fail to be deeply impressed with the evidences that are to be found on every hand, indicating the rapid progress that has been made in recent years in the use of Portland cement stucco as a building material. It has become very popular, especially in city and suburban residence districts, where it is applied to the construction of buildings of almost every class—cottages, bungalows, mansions, churches, stores, garages, etc.

Stucco has been used for building, since ancient times; but in its modern form, as Portland cement stucco, and in the methods of using it in building practice to-day, it is of quite recent origin and has only lately emerged successfully from the trial stage. The tests to which it has been subjected have been sufficiently complete to demonstrate its power to meet the severest of modern requirements; and the general opinion of architects and builders is that, when properly made and properly applied over the wood or metal framework, stucco is worthy of every confidence which may be placed in a building material.

A house built after the design here shown would look well anywhere. First floor is eminently the living floor, two-

thirds given up to living room, with fireplace, en suite with dining room with built-in buffet. Front and back stairs meet on common landing. Upstairs are

four bedrooms and bath, entered from central hall. There are clothes closets in each bedroom, and extra closet in hall; also balcony over rear porch.



Seven-Room Cement Stucco Residence, Size 28 by 30 Feet, Exclusive of Porches.



Concrete block residence of seven rooms. Two and a-half stories and basement. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6564 H.

Seven-Room Concrete Block House

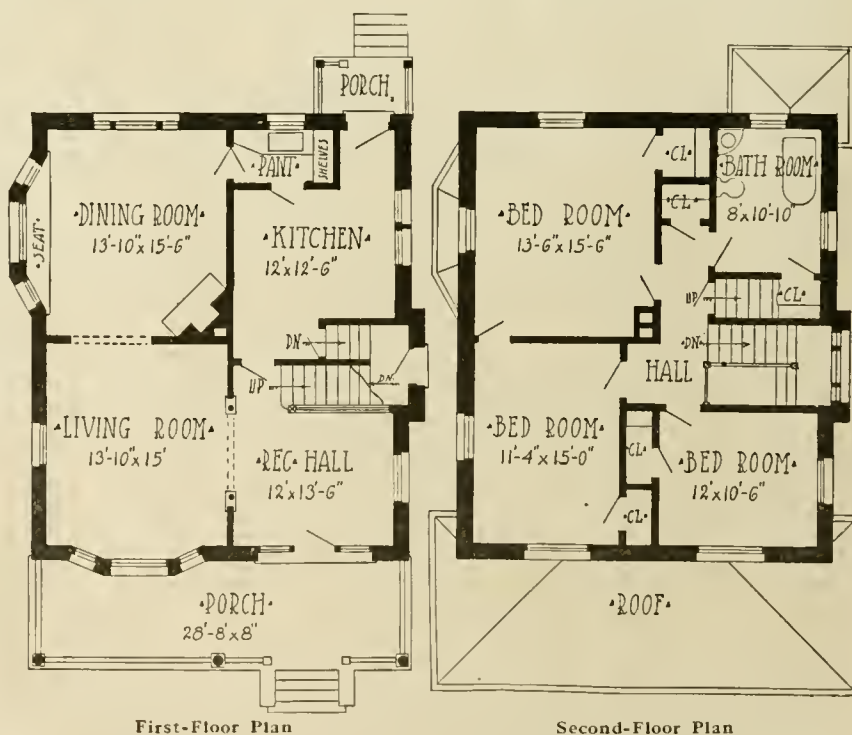
Here is a substantial, dignified, well-arranged home for a moderate-sized family. Concrete blocks, properly made and laid up, not only provide a lasting shelter that is comfortable under all weather changes, but, in combination with appropriate color contrasts in exterior trim, and with other artistic touches in projections, porch details, etc., give a general effect that is most pleasing.

All three bedrooms and bathroom in this house are on the second floor, entered from central hallway, from which stairs ascend to large attic and descend to large reception hall on ground floor at right. Entering this hall from wide front porch, one passes through colonaded opening directly into large living room, on left; thence through cased opening into large dining room at rear, with fireplace and built-in bay window seat. The kitchen, at right in rear, may be entered from reception hall or back porch, or from dining room through pantry. From the landing at side entrance, steps go up to kitchen or down to basement.

Every room in the house, it will be noted, is well lighted, and each of the

bedrooms is provided with the convenience of an ample clothes closet—a feature very much to be desired. There is

an extra closet in the upstairs hall; and the bathroom also has this closet feature for the keeping of towels, linen, etc.



First-Floor Plan Second-Floor Plan
Seven-Room Concrete Block Residence, Size 28 Ft. 8 In. by 33 Ft. 4 In.,
Exclusive of Porches.

Interesting Six Room Bungalow

Habit has a good deal to do with the way we build our homes in any particular locality. Contractors keep duplicating themselves over and over again with only minor variations.

The majority of home builders are fairly well satisfied, too, to have it this way. Each new house, as it goes up, is about as near like its neighbor as two beans in the pod; and the only real satisfaction there is in moving into a new home of this sort is that it is *new* and spic and span.

Then there come the man and his wife who want something *different*. They are not afraid to break away from local custom. They want a few of the innovations for themselves that they read about from other parts of the country.

A bungalow style dwelling is suggested. Instead of arranging the six rooms in a square box—three on the first floor and three above, upstairs—why not have all on the main floor? Do away with the running up and down

stairs. Enjoy the conveniences that dwellers in city flats are having.

If one has a good sized lot—a building site 75 or 100 feet wide by 100 or more feet in depth, such an arrangement work out very well. While the cost is slightly more, there are undoubted advantages that make the bungalow decidedly worth while. Many plans for

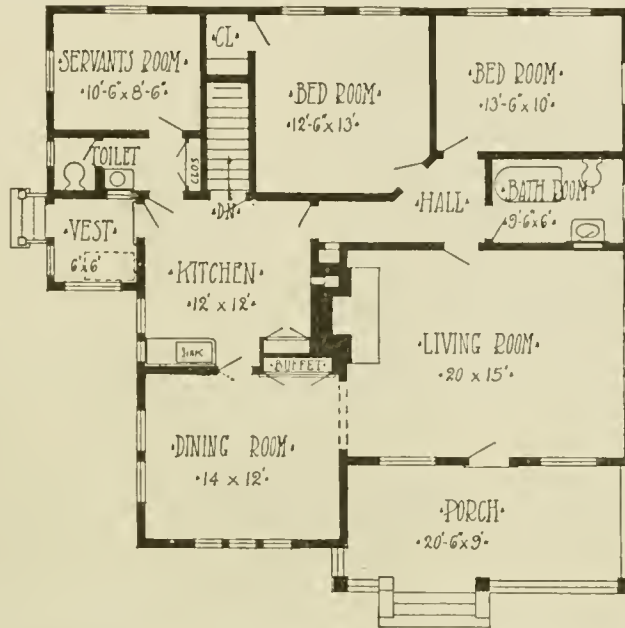
the grouping of rooms can be worked out to suit individual preferences.

Take, for instance, this very attractive six-room bungalow design illustrated. Here we have the front of the house given over to the two important rooms—living room and dining room. Two good sized bed rooms and bath are grouped to one side at the back of the house. The kitchen is very conveniently placed and the servant's room is entirely separated from the rest of the house.

There is infinite comfort, satisfaction, convenience, in living in a house like this. The outside appearance is strikingly home-like. The arrangement within is a model of bungalow planning.

The front porch is large enough for use as an outdoor living roof; and since it is so well sheltered is especially well adapted for screening in summer and for glazing in cold weather.

Notice, too, the little side porch or vestibule outside the kitchen door. This is a kitchen extension that will be much appreciated in hot weather.



Floor Plan of bungalow. Size 42 by 39 feet.



Western bungalow containing six rooms. A very popular design. Size, 42 feet by 39 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6566 H.

Comfortable Six-Room Bungalow

There is a charm about a bungalow that appeals to everyone. This design meets the requirements of particular people. There are two features in this plan that are difficult to find in bungalows.

The plan of building a porch and a loggia makes this arrangement possible and adds greatly to the appearance of the building.

The size on the ground is 46 feet 6 inches by 35 feet 6 inches—not large when the amount of room and conveniences are taken into consideration.

A feature about this plan that will appeal to every woman is the number of clothes closets and the manner in which they are placed for convenience. In a bungalow a woman must have places to store things, and a great difficulty has always been to find such conveniences without going upstairs for them. A

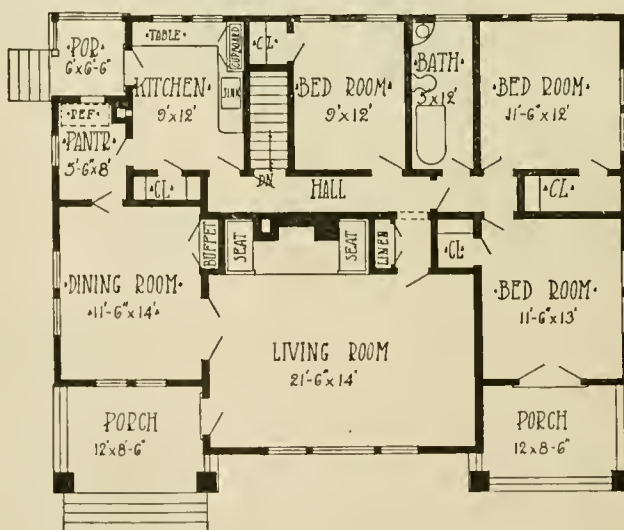


Special six-room bungalow. Size, 46 feet 6 inches by 35 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10. Blue-prints consist of basement plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6567 H.

low plans. One is that there are six good-sized rooms and the bedrooms are entirely separate from the living rooms.

Architects have worked nights and Sundays to incorporate these two features into a medium-priced bungalow, and are now congratulating themselves that it has actually been accomplished. It is easy to build a five-room bungalow, but the sixth room has always been a "Chinese puzzle," and the Chinese have always left it to the Yankee.

There is one especial feature about this bungalow that will appeal to the heart of every woman, and that is the splendid large living room, with a big, cheerful fireplace, and plenty of light in the front. Light is obtained by putting in a triple mullion window, and the light is not obstructed.



Main Floor Plan of Bungalow
Size, 46 ft. 6 in. by 35 ft. 6 in.

Every room is light and of easy access, and each room is large enough for the purpose it is intended for.

study of this plan will interest everyone who has or can get a building lot suitable for a building of this kind.

The front porch also adds to the house a pleasing approach, besides making a very comfortable outdoor sitting room summer afternoons. The comfort of a porch depends somewhat upon the direction in which it faces, but usually in towns and cities there are convenient shade trees, all of which must be taken into account in choosing a house plan.

A bungalow 46 feet wide must not be crowded in close between other buildings; it spoils the effect of airy roominess that a bungalow is supposed to typify. There is as much good judgment in selecting a lot for size, shape and outlook as there is in selecting the plan of house to put on it.



Neat gambrel roof frame dwelling of seven rooms. A very stylish design. Size, 24 feet by 30 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6568 H.

Attractive Gambrel Roof Residence of Seven Rooms

There is always something substantial and stylish looking about a gambrel roof residence. If the roof slopes are correctly proportioned, there is nothing finer.

In this design illustrated, the attractive effect is strengthened by the large gambrel dormer on one side. This serves a double purpose. It improves the outside appearance and also accommodates a second-story projection of about 3 feet, which allows the bath

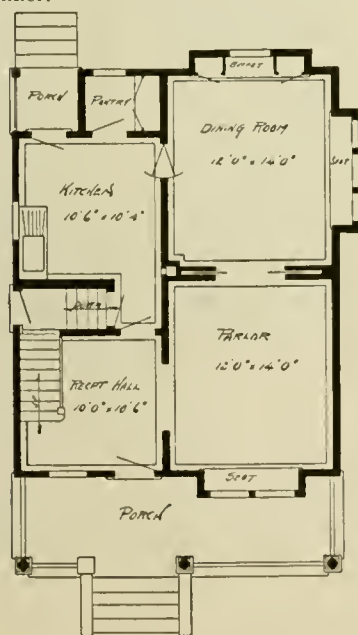
room to be placed to good advantage on this side of the second floor plan.

This is a thoroughly good design and interior arrangement for a medium-sized house. The rooms are all large enough for comfort and their arrangement is more than ordinarily good. All the rooms are well-lighted. On the first floor are reception hall, parlor and dining room, opening together with double sliding doors into kitchen and pantry. On the second floor are four bedrooms, five clothes closets and a built-in linen closet. The bath room also is on this floor. One of these bedrooms is extra large.

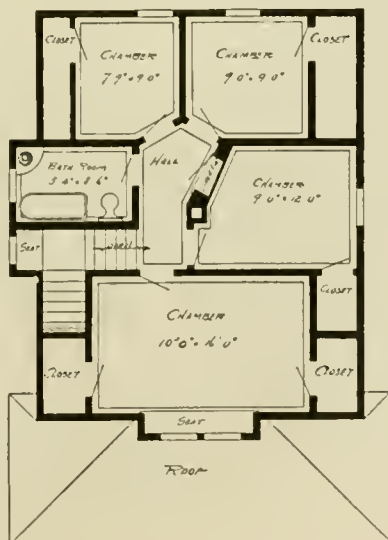
A very beautiful and comfortable porch extends clear across the front of the house. The porch columns are turned stave columns of classical design.

There is a grade entrance door at the side of the house, with stairs going both down to the basement and up to the kitchen hallway. No other cellar stairs than this are required.

The basement is cement floored and contains laundry, heating plant with coal bin, vegetable cellar, etc. The foundation wall extends well above grade, which permits good sized cellar windows for light and ventilation.



First Floor Plan.



Second Floor Plan.

Arrangement of seven-room house, size 24 by 30 feet.



A New Jersey style seven-room house. Size, 29 feet by 36 feet, a story and three-fourths. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6573 H.

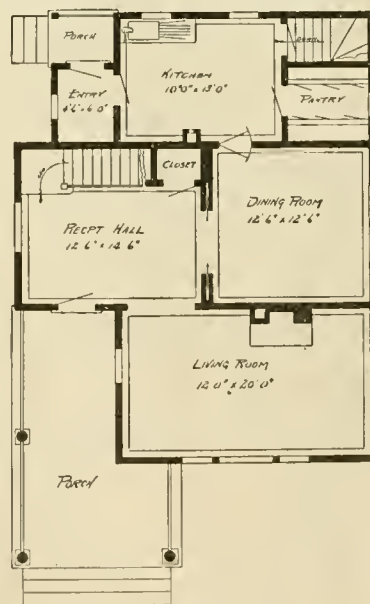
Seven-Room New Jersey Dwelling

A style of house very often built in the state of New Jersey and other southeastern sections is shown in this design. The plan lends itself easily to comfortable homelike appointments at a very moderate cost.

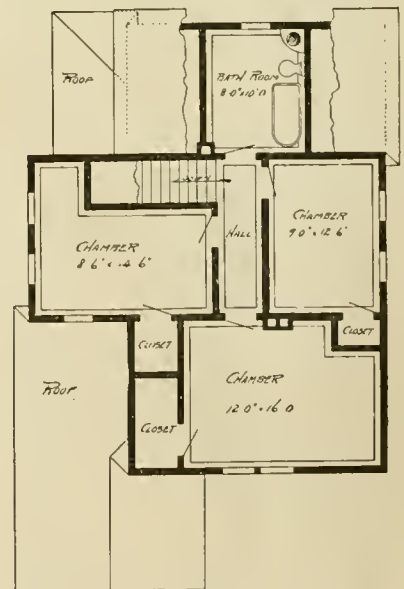
As long as this style of house has been built, it still retains its popularity. It seems to provide the room necessary for a family of four or five with all the comforts that such a home should have.

Every room in the house is light and airy, at the same time it is easily heated by a warm air furnace placed in the center of the cellar.

In building a house like this, it is well to consider the width of the main structure, which is 20 feet. This plan has been spoiled a great many times by narrowing down this part of the house to 16 or 18 feet. Builders often make that mistake. When a house plan has been carefully worked out and duplicated a great many times it is good to either follow the plan as finally adopted or select something entirely different.



First Floor.



Second Floor.

This width of 20 feet gives a living room that amounts to something. A living room 12 by 20 affords places for furniture comfortably placed and the room is big enough to entertain a few friends of an evening without feeling

unnecessarily crowded.

This manner of building a veranda entrance leaves the front of the house clear of any obstruction so that the wide mullion window may admit both light and sunshine to the living room.

Comfortable Six-Room Dwelling for Narrow Lot

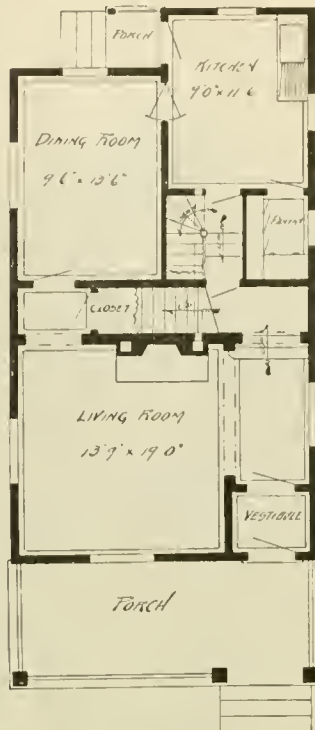
One seldom sees a better arrangement than this for a narrow house. The rooms are of good size and the arrangement is in every way convenient, and yet the total width of the building is only 20 feet.

Notice the way the front door opens into a vestibule, and then into an alcove reception hall. The first three steps of the stairway are directly opposite the door. A ceiling beam is all that indicates a separation between this reception hall and the rest of the living room.

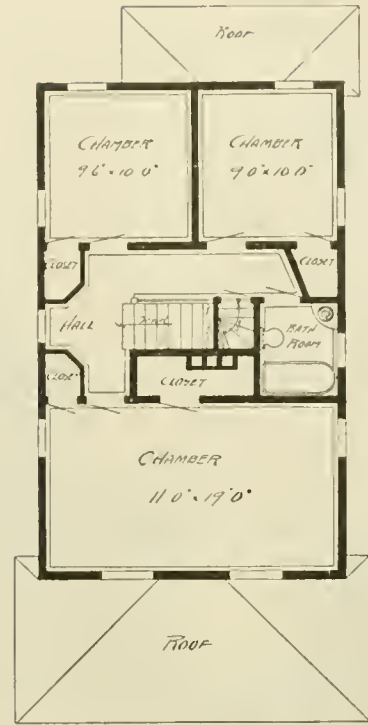
Three steps come up from the kitchen door to the stair landing so that the one flight of stairs serves as both front and back stairs.

The first floor also has nicely arranged dining room, kitchen and pantry. On the second floor are three bedrooms; one of them extra large. There are also four clothes closets and bath room on this floor. A stairway goes up from the second story hall to the third floor attic.

This is one of the popular square-type, hip roof designs.



First Floor Plan.



Second Floor Plan



A narrow-lot, six-room house conveniently arranged. Size, 20 feet by 32 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6569 H.



A good-sized two-story house and big attic house. Size on ground, 38 feet by 28 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of base-ment plan, roof plan, first and second floor plans, front, rear, two side elevations, wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for design No. 6576 H.

Large Two-Story House

For a family of four or more persons, a large two-story house like this with a good attic is a great comfort. In this plan, there are five rooms downstairs, besides a good-sized reception hall, and there are four good-sized bedrooms upstairs, besides the bathroom, plenty of clothes closets and a dressing-room that comes in very handy for a child's cot when the little folks are young enough to need the mother's care at night.

There is a very attractive stairway in this plan that looks well from the reception hall, and it is convenient of access from the front part of the house or the kitchen; a two-way combination; an invention that has been utilized to advantage to save space and steps. Steps enough are required in doing the housework in a house as big as this, without wasting time and labor hunting for a way to get up or down stairs.

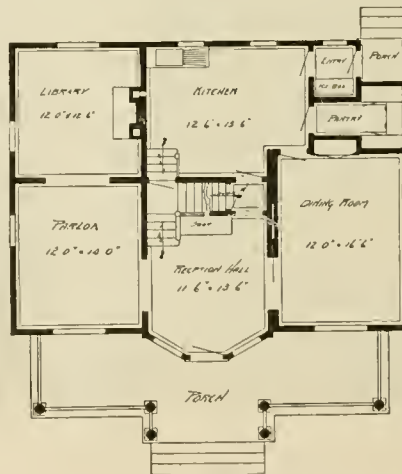
The way to the cellar is under the center part of this stairway, and the cellar landing is made where it is convenient to the heating apparatus. Continuing up is the stairway to the attic,

directly over the main stair, which is another economy. Architects worked a good many years to build this stair, but success has been reached, and we now have the acme of economy and convenience without sacrificing appearance.

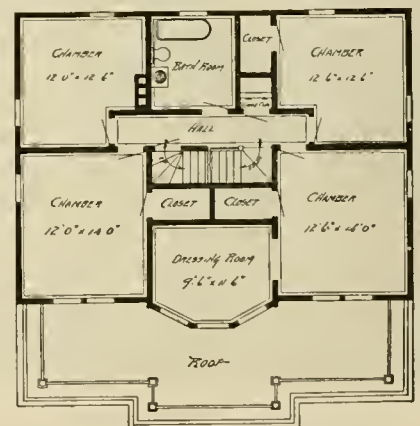
A large two-story house like this requires an imposing veranda and balcony, which have been well worked out in this design. It makes a finish to the

front of the house and adds a great deal to the value of the property.

The library in this plan is the office for the man of the house and a study for children of school age and those of more mature years. This makes a cosy family room, where the "kids" and the parents are likely to spend winter evenings enjoying a pleasant open grate fire.



First Floor Plan.



Second Floor Plan

Arrangement of Nine-Room House. Size 38 by 28 feet.

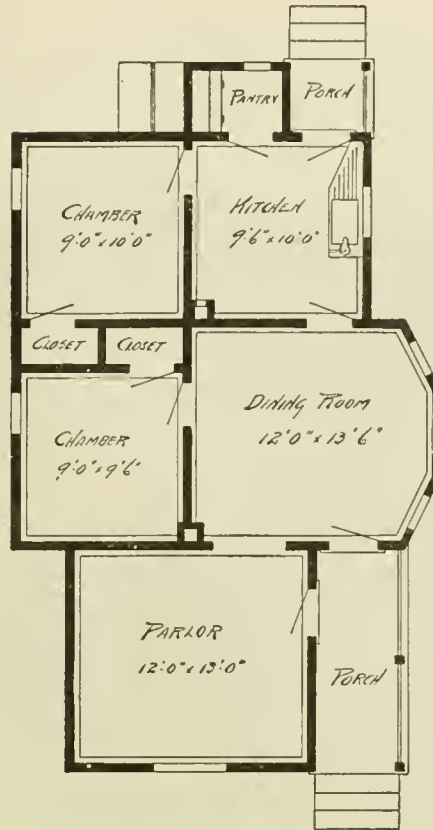
Low Price Frame Cottage

A simple little home-like cottage that contains untold possibilities for comfort is illustrated here. Everything that is really important in a modest home has been worked into this design.

While the main idea has been to make it substantial and commodious and economical, some attention has also been given to the matter of appearance. The result is a very neat, attractive looking little place.

From the front porch, a door opens directly into the front room or parlor, and another door opens directly into the dining room. This dining room is one of the pleasantest rooms in the house. One side is arranged as a large octagon bay containing three windows. A wide cased opening joins this room with the parlor. The kitchen is on the other side at the back of the house. One bed room opens off the dining room and one bed room off the kitchen. Each of these has a good, large clothes closet.

The kitchen is just the right size for a house of this kind, to handle the cooking easily. The housewife can get up a meal and use only half as many steps as in the old-fashioned kitchen of huge dimensions. Notice the way the pantry is placed. It has a big, built-in cup-



Floor Plan
Size 22 by 36 feet.

board and set of shelves, and there is space for a work-table or broad shelf in front of the window.

Being a small-sized, low-cost dwelling, many will want to heat this with stoves. Accordingly, two chimney flues are placed so that every room can be so heated. These chimneys, of course, go down to a solid footing in the basement, and so the whole house can be heated easily from a small basement furnace, if desired. Anyone building this house will find it worth while to look into the question of a small basement heating plant and compare its cost with that of stoves.

This house goes on a narrow village or city lot very nicely. As the house measures 22 by 36 feet, a 25-foot lot is big enough.

This design works out very nicely for a village or suburban cottage. It is a style that one very often sees; yet it is always attractive, especially when kept nicely painted and the yard around it given some attention.

It is really surprising what a little fresh paint and a general slicking up around a place will do. A well-cared for house and grounds easily brings four or five hundred dollars extra when the time comes to sell.



Inexpensive five-room cottage. Size, 22 feet by 36 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6570 H.



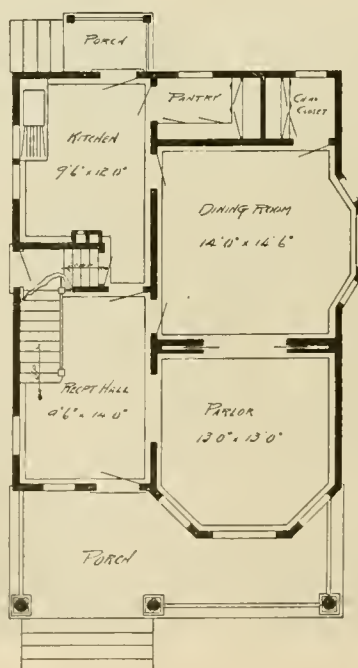
Interesting seven-room house containing many modern conveniences. Size, 24 feet by 30 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6578 H.

Convenient Seven Room House

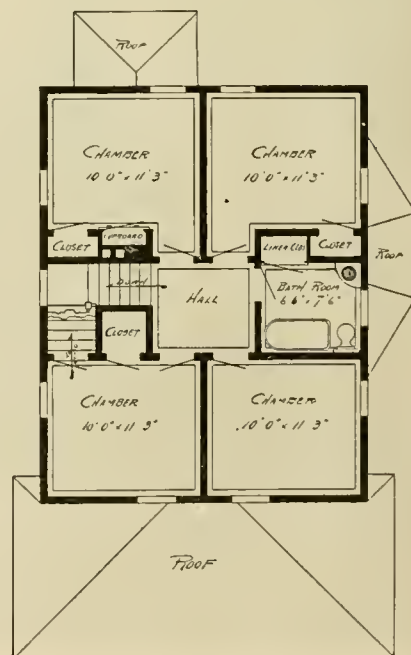
There are three special features in this house design that will appeal to every good housekeeper. They are the outside entrance to the cellar, the linen closet in the bath room, and the splendid attic for storage purposes.

The manner of building the stair gives an opportunity to utilize space to the best possible advantage. All stair landings are so placed that they are convenient to the different floors. Each flight is well lighted and there is very little room taken up in hallways. In fact, the upper hall is just big enough to make room for the doorways and the stair landing. The stairway is lighted by a glass door at the bottom, a central window and a dormer window in the attic. A stairway that is thoroughly well lighted is a great comfort.

It will be noticed that all rooms in this house are commodious, well lighted and well arranged. Each bed room has wall space sufficient to accommodate bed room furniture without appearing awkward or seeming crowded.



First Floor



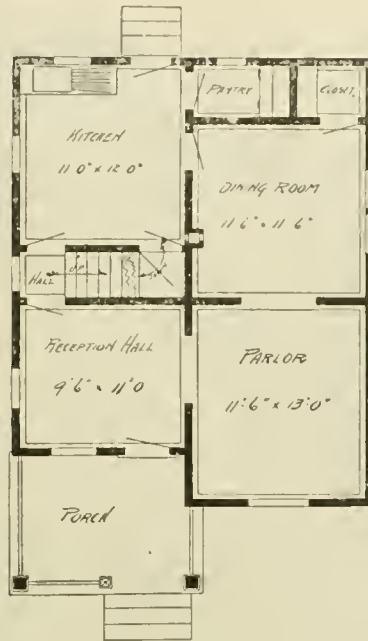
Second Floor

Arrangement of house, size 24 by 30 feet 6 inches.

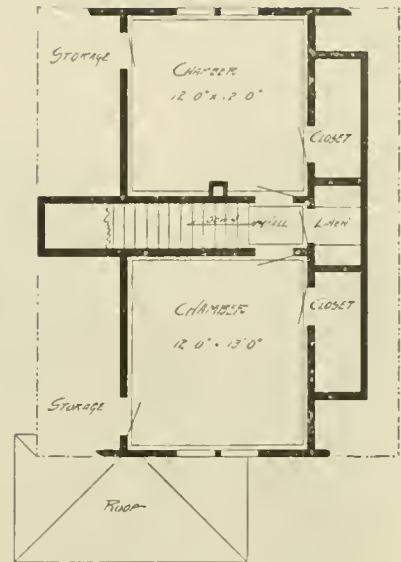
Substantial Six-Room House

The design of the house has a great deal to do with the appearance and comfort of a home. A house must not encroach upon either of the adjoining lots and it is better not to come very close to the line either way, because of light, air and appearances. This is a six-room house arranged for convenience in doing the work with comfort, both in winter and summer. As the plan shows, there is no room wasted. The stair from the cellar to the upper rooms, with doors from the front room and the kitchen, is conveniently arranged.

Although the house is not very large, there are three good-sized rooms on the first floor, besides the hall, which really is a part of the parlor, the two together making a pleasing compromise between parlor and living room. A closed stairway in small houses saves room, saves heat in winter, and when the doors are left open, acts as a ventilator in summer; besides, it costs very much less than an open stairway.



First Floor Plan.



Second Floor Plan.

Arrangement of Six-Room Cottage, Size 24 by 30 feet.



Six-room house 24 feet by 30 feet in size. We can furnish complete set of blue-printed working plans and type-written specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6571 H.



House of six rooms and attic, 26 by 31 feet in size. We can furnish complete blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6579 H.

Practical Six-Room House

House plans that survive and are duplicated many times year after year must possess considerable merit or they would die out. Design 6579 is one of this sort.

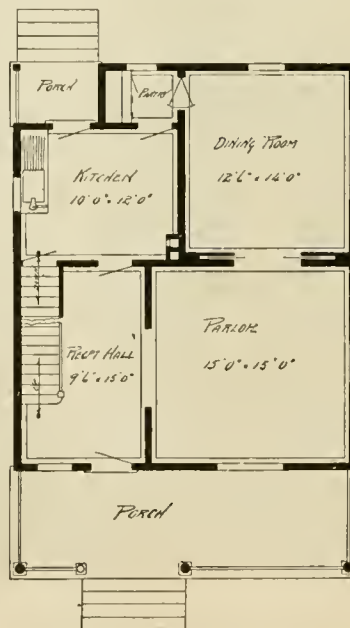
It is a square two-story house with attic, plain and simple in construction, which makes for low cost, because of the plain, straight work. There is a good seven and one-half foot concrete cellar wall for foundation, which gives the necessary height for head room and ventilation and to install a furnace with ample slope to the pipes.

There is also sufficient room for good, deep cellar windows to admit plenty of light to the basement. The side hall, with the stairway against the outside wall, gives a well lighted, comfortable appearing front entrance, with easy steps leading upstairs. This arrangement also provides the same width of stair with the same easy tread and riser to go down into the cellar from the kitchen. These are features in house building that have been sanctioned by good American housekeepers for generations.

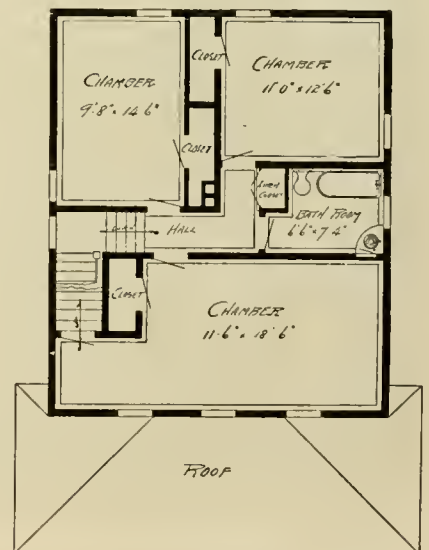
A house of this design is easily lighted, because light is admitted from every

side. There is a window over the kitchen sink, which also is directly in front of the kitchen range. Another window in the pantry admits considerable light through into the kitchen when

the door is open. This arrangement of pantry doors gives a passage into the dining room that is well liked by most women because there are two doors, either or both of which may be kept shut.



First Floor.



Second Floor.

Arrangement of House, Size 26 feet by 31 feet.

Full-Pitch Roof House

A neat little house of five rooms is shown in this design.

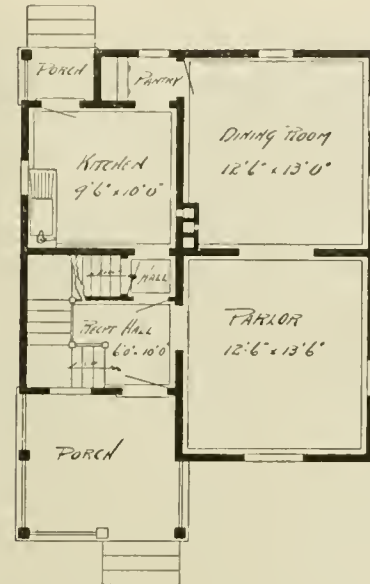
The peculiar feature about this house is the full-pitch roof, which means that the gable forms an equilateral triangle. It takes more roofing material to build a roof like this, but the rooms upstairs may be lathed and plastered directly on the rafters, if desired, which makes a saving in that way.

Steep roofs last longer, which, of course, is another economy; and a great many people think they look better. At any rate, this roof provides the space necessary for two good bedrooms and a bathroom and plenty of closet space on the second floor.

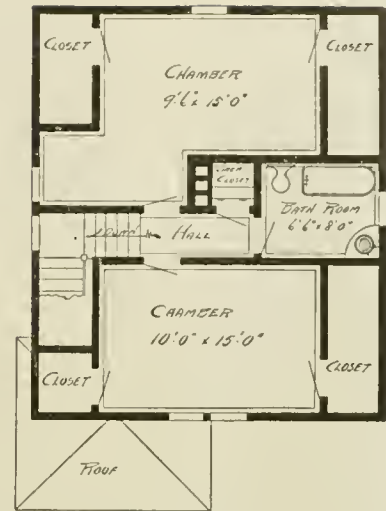
One dormer gable lights the bathroom and the stairway, while the other furnishes a window to light one of the bedrooms.

On the first floor the arrangement is complete with hall, kitchen, dining room and parlor.

This style of stairway is well liked. It has been built a great many times in different parts of the country and it will continue to be built because it is



First Floor Plan.



Second Floor Plan.

Arrangement of House, Size 24 by 28 feet.

pleasing in appearance, takes up but little room, is well lighted from the two windows and offers an easy tread and riser. Also, the stairway to the

cellar, being underneath and convenient to the kitchen, is well-nigh perfect.

The chimney has an extra flue for the furnace, possibly to be put in later.



Five-room house with full pitch roof. It is 24 feet wide by 28 feet long. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6572 H.



Idea for Cozy Living Room, Den or Library. The Spirit of the Most Up-to-Date Home Building is to Embellish All the Principal Rooms and Make Them Interesting by a Generous Use of Built-In Cabinet Work. The Entire End of This Room is Filled With a Unique Combination of Brick Fireplace and Built-In Trophy Cabinets. The Heavy Oak Mantel Shelf is Continuous Clear Across the Three Pieces. Notice Also the Heavy Oak Cornice Mold. This Helps to Make a Very Rich Appearing Apartment.



Cozy little cement bungalow containing five rooms. Size, 26 by 44 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. Ask for Design No. 6558 H.

A Clever Little Cottage

It is only in recent years that we have learned to plan cottages that are really interesting and livable. It took quite a while to get people out of the notion that some of the old-fashioned customs, always counted as essentials, are not really necessary at all.

No doubt the western bungalow designs have done as much to revolutionize things as any other influence. Certain it is that today when a man with a small family wants to build a cottage, he is not afraid to cut free from the old traditions, and use the small space he has at his disposal for those things he really needs and uses in his home.

In this design there are five rooms on the main floor besides the two screened porches and bathroom. On the second floor there is a big sleeping porch with one side all open, just an ideal place for fresh-air sleeping.

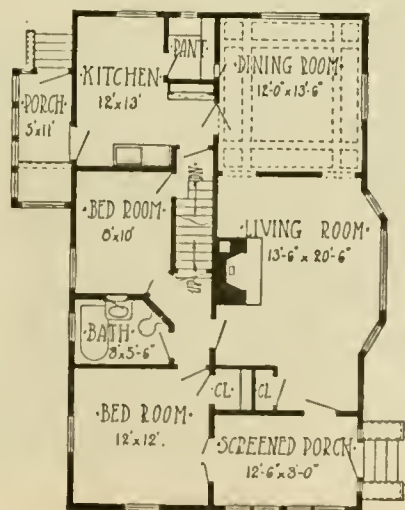
The greater part of the main floor is given over to the living-room-dining-room combination. This is handled almost as one room. The partition between the two doesn't amount to much. The object here is to get plenty of sunlight and fresh air and to handle these rooms big enough so that one does not feel cramped in them, as in the ordinary small house.

Entrance is through a screened porch, which opens both into the living room and through double French windows into the front bedroom. By having the bed on large, rubber-tired rollers, it can be easily rolled out onto this screened porch, where even the hottest summer night can be thoroughly enjoyed.

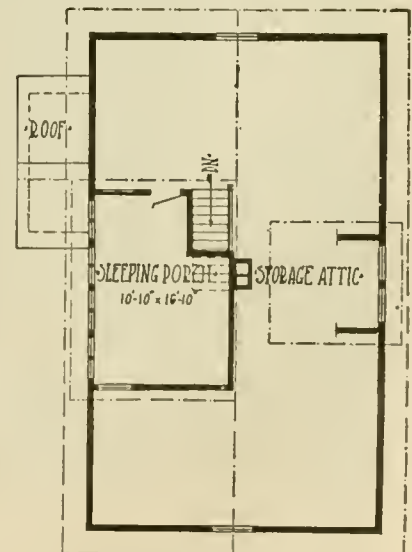
The bathroom and stairway to the second-story sleeping porch are on a

small inside hall. The smaller bedroom, which can be nicely used as a maid's room, opens also from this hall, and through the cellar way, directly into the kitchen. While this may be considered an unconventional arrangement, it works out very handily.

On the second floor, in addition to the sleeping porch, is a large amount of well lighted attic space.



First Floor Plan.



Second Floor Plan.

Arrangement of Cozy Cottage. Size 26 by 44 Feet.



Attractive six-room house, 36 by 28 feet on the ground. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6581 H.

Six-Room Gable Roof House

Here is a very attractive house both inside and outside. The exterior is interesting on account of the gable roof and two outside chimneys, together with the manner in which the dormer windows are built.

In the interior of this house the main feature is the large living room, 14 feet by 27 feet, with a fire-place in the outside wall. This room is well lighted on three sides according to the best ideas of admitting plenty of light and sunshine into the house. The profuse lighting idea is fashionable now-a-days and the fashion is a good one.

Living rooms often are occupied 16 or 18 hours a day by members of the family and their friends. Sociability is encouraged by large, airy, comfortable rooms that are well lighted and well ventilated.

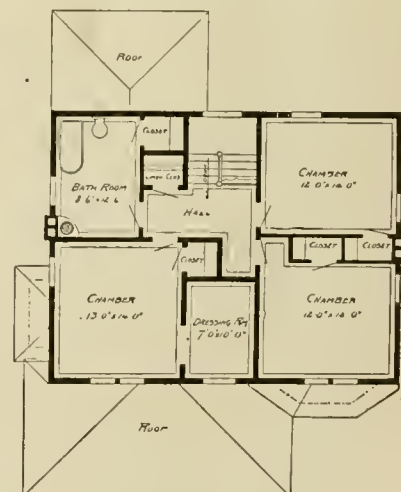
In this plan, the stairway is placed at the back of the house to avoid taking up valuable front space, either upstairs or down. The eternal argument in regard to proper placing of stairways still

goes on and probably will never be settled to the satisfaction of all parties; but the fact stands out plainly that we have better and more convenient stair-

ways in our newer houses than were ever known to our fathers or grandfathers. This stair opens out of the kitchen as well as the front hall.



First Floor Plan



Second Floor Plan

Arrangement of House, size 36 by 28 feet.

Square, Two-Story House with Attic

A square built house offers the greatest possible amount of room for the amount of material necessary to enclose it. This design is only 26 feet in width by 24 feet from front to rear, exclusive of porches and the built-on pantry.

The house being almost square, makes up naturally into four rooms upstairs and four rooms down stairs—the one room down stairs being used for an open stairway and reception hall.

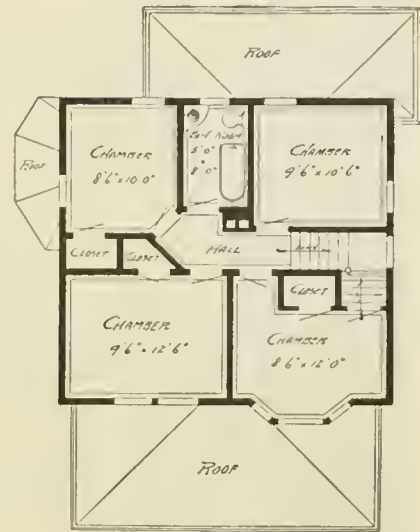
The living room is made a little larger.

The appearance of the house is improved by the two porches and the two bay windows and the built-on pantry at the back, together with the dormer windows in the roof. These embellishments relieve what would otherwise be a plain exterior.

The arrangement of windows also is pleasing. The placing of windows is quite a study in house building. Everyone wants to get as far away from the factory type as possible, still windows must be symmetrically arranged. There



First Floor Plan.



Second Floor Plan.

Arrangement of House, Size 26 by 24 feet.

also is a limit to the height of windows, both top and bottom and sideways because of the proper placing of furniture.

In this plan it will be noticed that

each bedroom has two wall spaces for furniture, free from windows. House-keepers will appreciate this particular advantage.



Square, two-story house with attic. Size, 26 feet wide by 24 feet in length, exclusive of porches and built-on pantry. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6575 H.



Hip roof, six-room house. A splendid design, showing the arrangement of rooms in a two story house, 27 feet by 31 feet on the ground. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6582 H.

Hip Roof Six-Room House

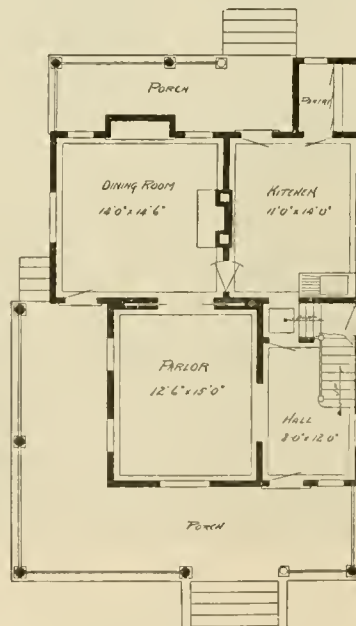
A very pleasing design has been worked out for this interesting little six-room house. The demand for six-room houses has resulted in the production of many splendid plans. The one here illustrated contains many desirable features.

In the first place, it is pleasing in appearance; which effect is enhanced by standing the house up well above ground on a concrete cellar wall. The hip roof designed with the "L" shaped extension gives an opportunity to vary the roof design in this respect. The main outside feature is the front veranda, which gives considerable room for porch furniture, as well as an extra entrance to the house through the dining room.

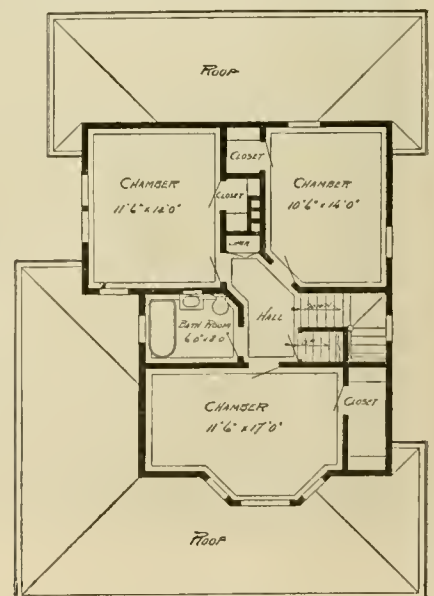
This dining room, by the way, is designed for a very comfortable living room. It is here the open fire is lighted when the evenings become cool in the fall and the front veranda is deserted. There is a hominess about a fire place in a room a little back from the front of the house which is impossible to get in the front parlor. This room is intended to be used, while parlors are too often kept nice just to look at.

The arrangement down-stairs of the parlor, dining room and kitchen, with a very comfortable reception hall is all that could be desired in a house of this size. There is a doorway at the back of the hall to close off the entrance to the cellar stairway. Plac-

ing it here gives more room in the kitchen, and the hall is plenty large. This plan also provides a grade entrance to the cellar and to the kitchen, but the back porch is not used much except for the family. Grocery parcels are delivered at the side door.



First Floor



Second Floor

Arrangement of House, Size 27 by 31 feet.

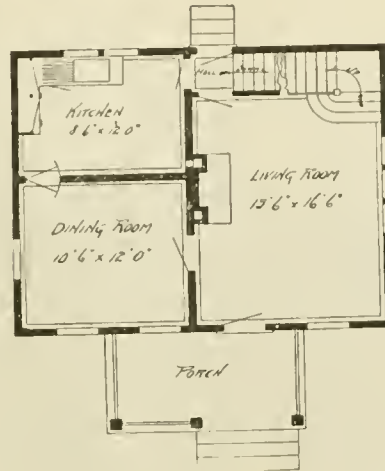
Five-Room Gable Roof House

This design shows a house 27 by 20 feet 6 inches, containing five very comfortable rooms besides the bath room and a very neat, attractive-looking stairway.

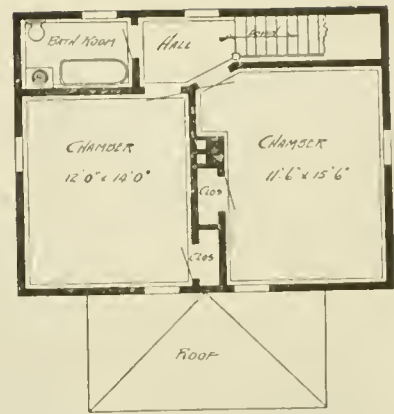
The large living room is one of the most interesting features about this little house, and it is a surprise to find a room of this size in a house so small. The house does not look so very small, either, after it is built and painted. There is something about the way the gables are treated and the style of the front porch that gives the house rather an important look.

It is a little larger than a shack on the ground and it is only one story high (without counting the roof); but it offers the very nicest arrangement of rooms with all the modern conveniences that a big house affords.

It took a long time for builders to plan out modern luxuries for families living in small houses. For many years city plumbing was confined to the more pretentious buildings. When small houses got cold water pipes as far as the kitchen sink, the owners considered



First Floor Plan.



Second Floor Plan.

Arrangement of House, Size 27 feet by 20 feet 6 inches.

themselves lucky, but now the plumbing in a small building is just as good and the work as carefully done as the plumbing in a mansion.

This design provides for a good sized chimney with separate flues and a splendid fire place. A small furnace will heat all the rooms because the house is

so compactly arranged and well built.

The stairway up from the living room is well planned for artistic effect. The stairway to the cellar leads down from the back entrance passageway, where it is shut off by doors from every direction. The whole plan breathes of comfort and luxury.



Five-room gable roof house, 20 feet 6 inches by 27 feet in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6577 H.



Economical, square-built house of seven rooms besides a large reception hall. Size 27 feet 6 inches by 31 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6583 H.

Two-Story Frame House With Attic

In a climate where it is necessary to furnish artificial heat for six or seven months in the year, a closely built two-story house of this type is about the most economical. It is easily heated, because the furnace may be placed directly under the center of the house.

The style of stairway in this house is also interesting, from the fact that there are two ways to go up and two extra pairs of steps to go down. Also the same space is used for the stairway to the attic. This stair is open at the bottom in the reception hall, but is enclosed from the landing up, which makes a very neat combination from the cellar to garret. Besides its economy of space, it is well lighted and it is easy of tread. In fact, it is a much better stair than is ordinarily found in a house of this size.

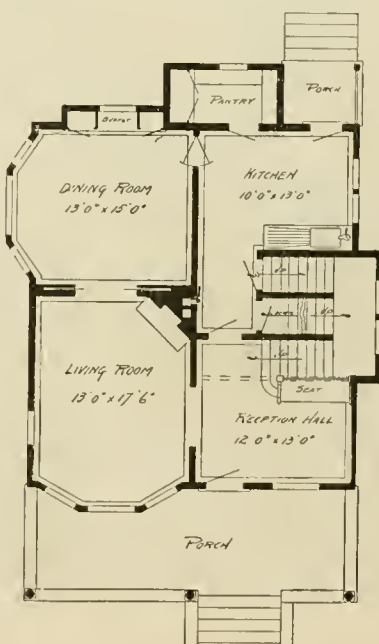
Advantage also is taken of the manner in which the stair is built to get a grade entrance, which leads to the cellar and to the kitchen with little or no extra cost.

A study of the floor plans shows the same careful economy of space in every

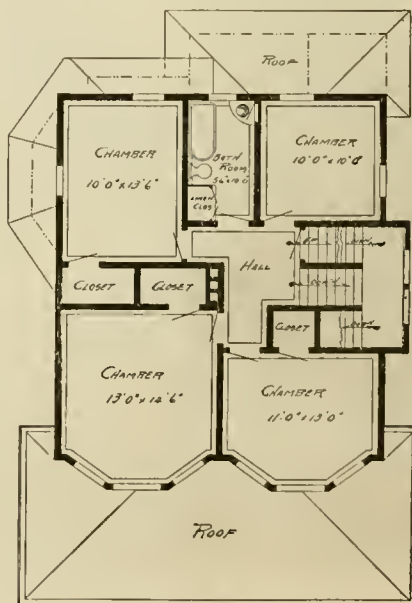
part of the house. Special attention in providing every modern convenience for comfort has been given, also for economy of labor in doing housework.

This plan contains a splendid kitchen

with plenty of pantry room, a good dining room easy of access, with a built-in buffet, large enough to be of real service. This buffet extension is roofed in an ingenious way.



First Floor.



Second Floor.

Arrangement of House, Size 27 Ft. 6 In. by 31 Ft.

Seven-Room Two-Story House

The main idea in this design is general utility. It is a medium priced house containing some special features required by certain owners, one of which is a bedroom and bathroom on the first floor, an arrangement that old people appreciate, and it is convenient sometimes for persons who are not old.

In this design, the hall is of the good old fashioned kind with a stairway going up along the outside wall. Every man demands a coat closet built under the front stair. That is one reason why the men like this house.

A long veranda extending across the front and down the side to the outside dining room entrance is a special feature that appeals to certain families who want a side entrance.

This wing end of the veranda is convenient and attractive when arranged as an outdoor sitting room. It may be furnished with appropriate summer furniture without interfering with the front door or main approach to the house. This part of the veranda should look toward the south and it should be screened with heavy, hardy vines like the Dutchman's pipe, Virginia creeper, or trumpet vine. The porch at the rear may be treated in a similar manner and

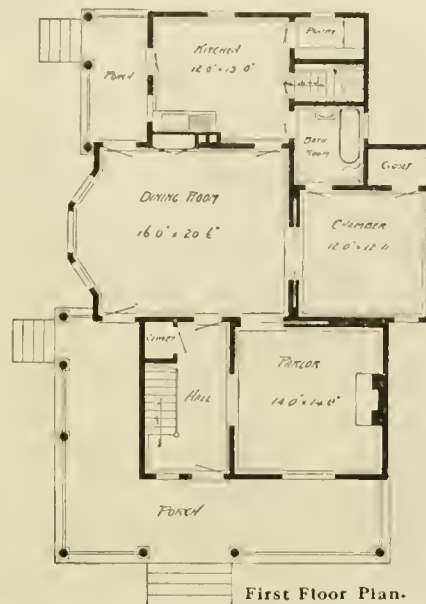
used as a summer work room and kitchen annex.

In this design the space over the front hall is all utilized. Every family needs a good linen closet and this is the proper place to put it in this style of house.

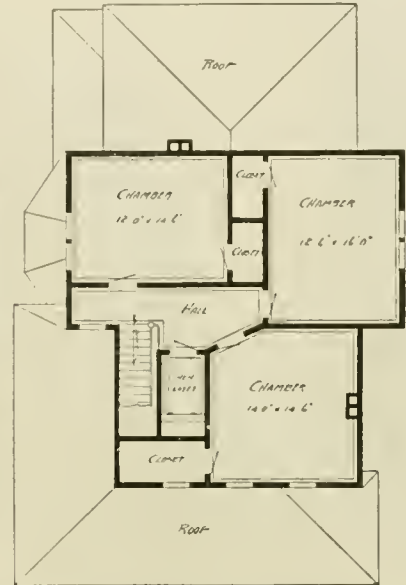
In this plan the dining room is 16 by 20, which is large enough for a modern

living room, with all the appurtenances necessary for genuine comfort.

Doors connecting this splendid room with the side veranda and the back porch suggest summer outings with home comforts. The size of the mosquitoes may be regulated by the quality of the wire screening used to enclose these outdoor rooms.



First Floor Plan.
Arrangement of House, Size 32 Ft. by 44 Ft. 6 In.



Second Floor Plan.



Medium priced seven-room house with some especial features. It is 32 feet by 44 feet 6 inches on the ground. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6587 H.



Gambrel or curb roof house design that has been carefully planned to secure the utmost value for the amount of money expended in building. It is 28 by 26 feet in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6586 H.

Gambrel Roof House Design

A very neat, rather fancy effect is given in this house plan. The first gambrel or curb roofs that became popular with builders were used for barns; but of late years, a great many houses have been constructed on this plan. The reason is that the roof is sensible. Good, sound, common sense usually prevails in the long run, in spite of fashion, or decree of any kind.

In the first place, the roof is roomy without using unnecessary material. A one-story house may be carried up in this way to give sufficient height of ceiling for the bedrooms upstairs without adding a great deal to the expense of the house. Many old-fashioned cottage house plans would cost as much to build as this house and give only half as much room when finished. Economy in roof construction is just as valuable as economy in any other part of the building.

This is a comparatively small house, only 28 feet wide by 26 feet deep, but it contains seven rooms and a large reception hall, and the rooms are comfortable, both in size and proportion.

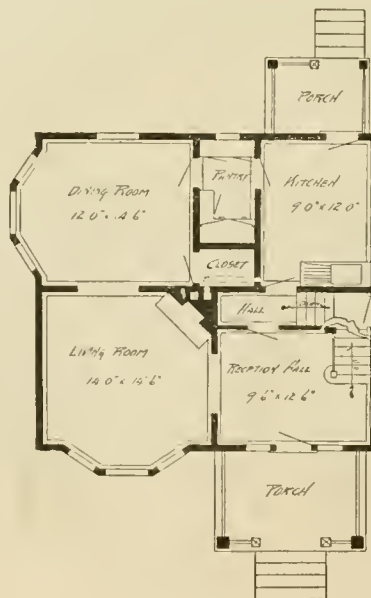
It will be noticed that no space is wasted in halls or stairway. The hall

upstairs is merely big enough to accommodate the doors to enter the different rooms. The hallway down stairs is simply a coat closet with doorways and an entrance to the cellar.

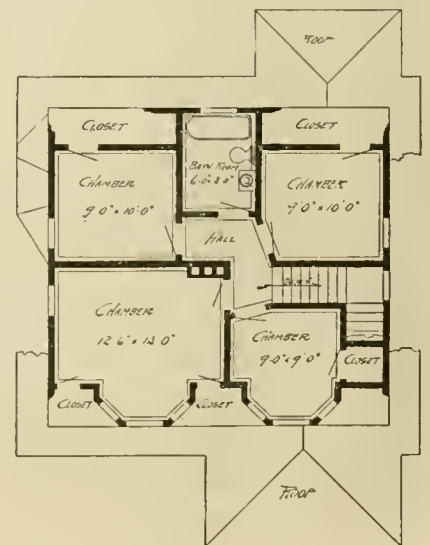
It takes very careful planning to space the several necessary home conveniences

as economically as this. Every cubic foot enclosed costs just so much money. The waste room in a house costs just the same as room that is valuable.

The side entrance to the cellar and kitchen is a great convenience and it saves tracking dirt into the kitchen.



First Floor Plan.



Second Floor Plan.

Arrangement of House, Size 28 by 26 feet.

Neat Six-Room Story-and-a-half Cottage

A pleasant little dwelling that will go nicely on a narrow lot is illustrated. It is just about as simple and free from complicated features, that run up the cost, as any house could well be. Its rooms are all pleasant and convenient and there is no waste space.

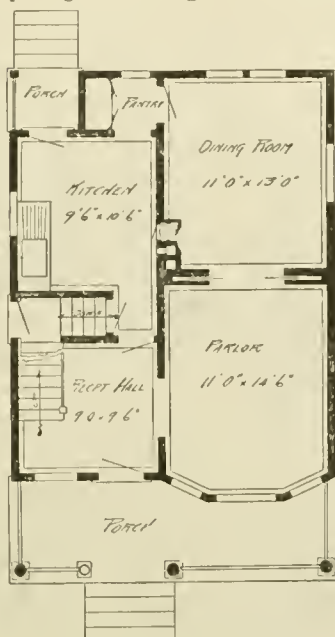
A house of this kind is inexpensive to build and can be rented or sold at a reasonable price and still give a margin of profit to the owner or builder. As the width is only 22 feet, it will go on a narrow lot very nicely. A narrow lot usually means houses crowded in rather close together; and so in this design the principal lighting is from the front and rear.

The outside appearance of this little dwelling is very attractive; a frame house, with wide clapboard siding, resting on a cement foundation.

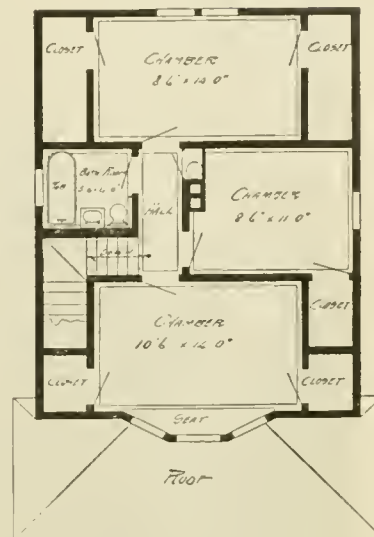
The front porch is generous in size and has neat porch rail and three turned columns. Entrance is into a square reception and stair hall; from this one

can pass into the parlor, through a cased opening to the right, or directly back

into the kitchen. The dining room is just back of the parlor.



First Floor Plan.



Second Floor Plan.

Arrangement of six-room house. Size, 22 by 28 feet.



Six-room, story-and-a-half, frame dwelling. Size, 22 by 28 feet. A cozy, substantial home. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6584 H.



A good sized attractive country home. It is 27 feet by 40 feet on the ground and contains eight rooms besides the large reception hall. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6588 H.

Country House with Circle Porch

A very substantial house, either for the farm or big lot in town is shown in Design 6588H. It is 27 feet by 40 feet in size and has an imposing general appearance which requires considerable room to show it off properly.

This house has a very pleasant, sunny disposition, which makes itself manifest in every outward feature. Large houses require considerable sunlight to fit them to get along easily with all the inmates. Gloomy houses always get into a fight sooner or later and have a roof knocked off or the little windows punched out to make room for larger ones.

Four rooms downstairs and four good bed rooms upstairs give the general design of this house in a nut shell.

Going into detail, we find comfort written into each room because the plan gives encouragement to light and cheerfulness in every corner of the house. All living rooms are large, airy, well-lighted and comfortable, while the convenience in the culinary arrangements is especially good.

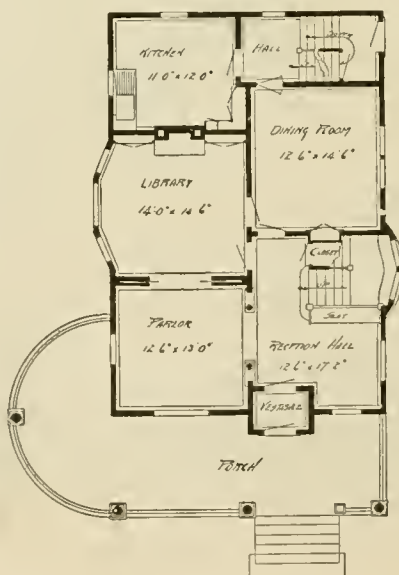
The grouping of the reception hall, parlor and library are well intended to

facilitate home comfort when the family is alone, or to make the three rooms practically into one when the coming of a few friends makes more room necessary.

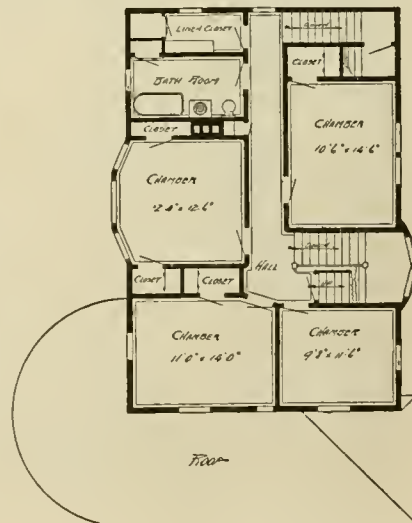
A pleasing effect is produced in the

library by building book cases at the sides of the fire place. Books give an air of refinement to any room. They are indispensable in a library.

Built-in book cases look better than movable ones.



First Floor Plan



Second Floor Plan

Arrangement of House, size 27 by 40 feet.

Six-Room Summer Bungalow

This design shows a frame construction, stucco finish, six-room bungalow that is very attractive in finish and appearance.

While this plan is strictly a bungalow in design, there is a stairway to the attic, and this attic will be found convenient at times for sleeping cots when the boys come to stay over Sunday. The arrangement of the rooms is entirely satisfactory, even for the most substantially built town bungalow.

The built-in porch after this manner will be appreciated because of the protection it gives against wind and storm. For still rougher weather, the large living room, 15 by 21 feet, offers a very comfortable retreat.

In building a fireplace the size of the opening must be large enough to take in small logs. A wood fire brightens up a living room better than any other kind of fire. The only fireplace furniture necessary are a pair of andirons and a set of fire irons, consisting of

poker, shovel and tongs and a suitable standard to hold them. The open fire is the attraction. The fireplace trimmings should be very plain and simple.

No fireplace should be closed with a wooden stop, even in summer, for soot in the chimney may take fire or sparks from some other source of heat using the same flue may fall and set the board on fire.

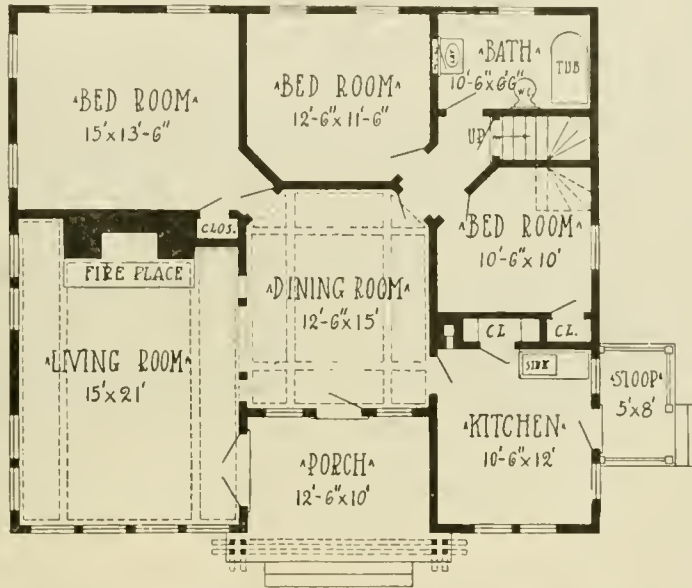
The summer bungalow requires a

wide cornice to give it a summery effect. In this case, the cornice is supported by brackets which are useful as well as attractive.

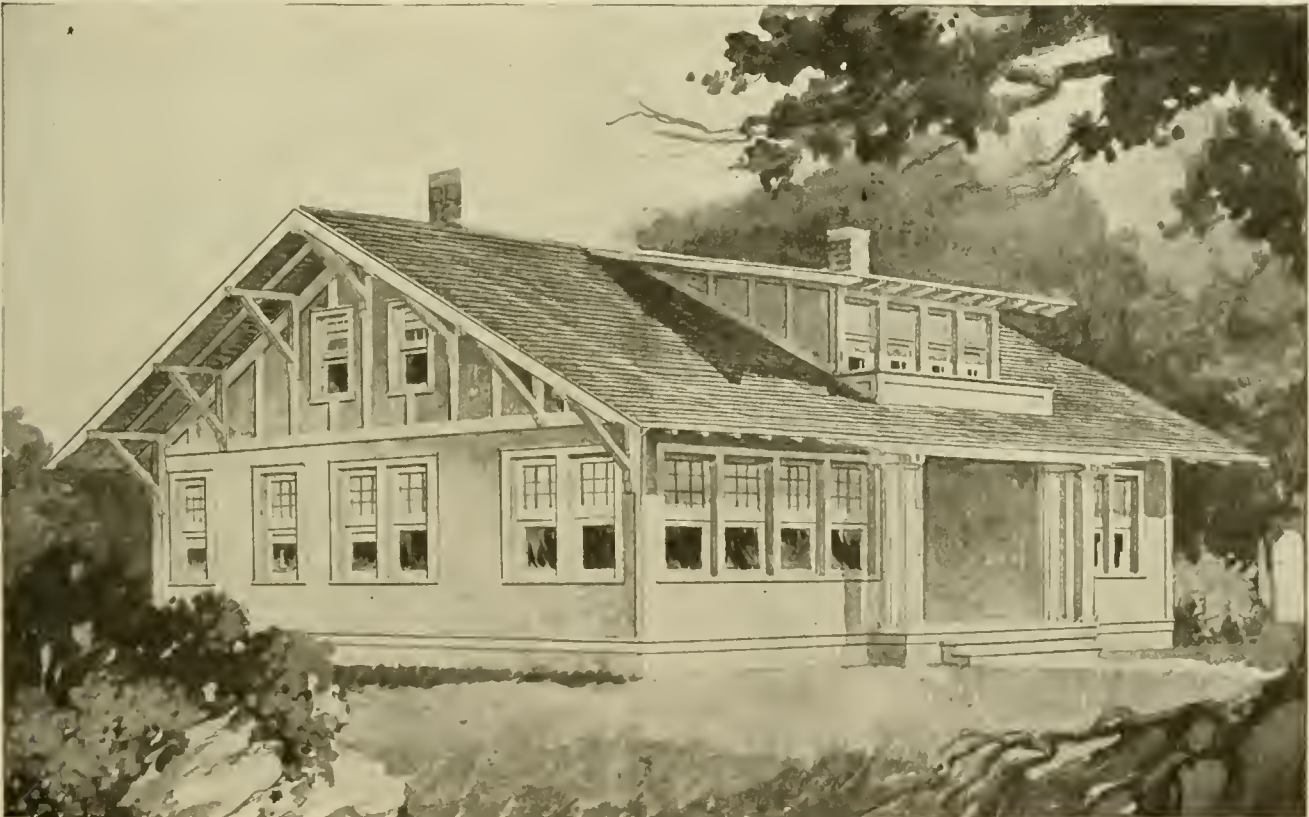
In a house as compact as this, with so many rooms, the clothes-closet proposition is a difficult one. However, there are three closets parceled among the bedrooms, and there is plenty of attic room for the storage of extra clothing, bedding, etc.

The planting around a bungalow is important. Shrubs and climbing vines add a great deal to the appearance of a well built porch. In fact, no house is complete when the carpenters and painters finish their job. The owner must use a little head work and a good deal of muscle in fixing up the grounds to match the house.

An aristocratic appearance may be given to a poorly designed house by the proper arrangement of vines, flowers and shrubbery. But the best house ever built looks bare and uninviting as long as it stands out alone on a bare lot.



Floor Plan of Summer Bungalow. Size, 40 by 36 feet.



An interesting summer bungalow. It is 40 feet by 36 feet in size, with six rooms and a built-in porch on the first floor. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6606 H.



Two story house designed to fit a narrow city lot. The size is 18 feet by 40 feet on the ground, exclusive of porch. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6589 H.

House Designed for Narrow Lot

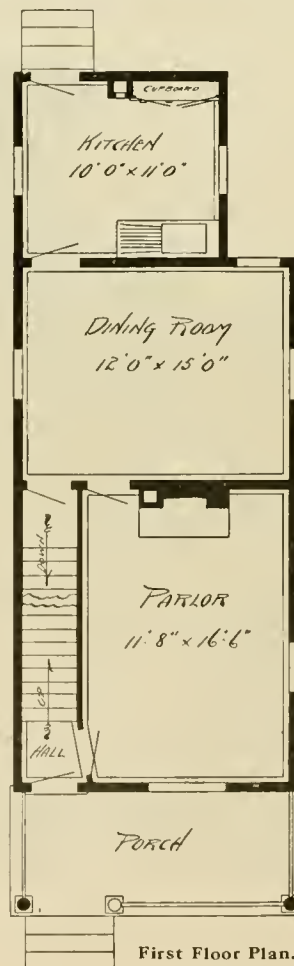
A small house of five rooms suitable for an extra narrow lot is shown in this design. It is only 18 feet in width, but the lower part is 40 feet in length, the kitchen being but one story in height.

The one stairway leads to the upper rooms and the steps underneath lead down to the cellar from the dining room. In front there is a very comfortable living room or parlor with a fireplace built so as to leave room for a doorway opening into the dining room and a nook to fit a bookcase in the corner.

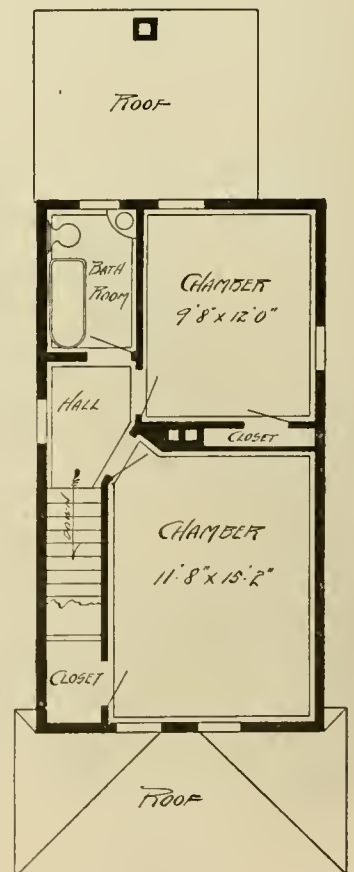
A house as high as this needs a good heavy porch across the front to relieve the plain, high front effect. Another essential in this design is to select a nice-appearing front door, and the door must contain glass enough to light the stairway. What would otherwise be a dark hallway is then pleasantly lighted.

One reason for making a house so narrow is to get light on both sides, even when it is placed on a 30-foot lot. Few city lots are narrower than 30 feet, which would leave 12 feet for light. One reason for the one-story kitchen is to give plenty of light in the back bedroom and in the bathroom.

Considerable ingenuity is required to meet all contingencies and to provide a building that is bright and pleasant.



First Floor Plan.



Second Floor Plan.

Arrangement of House, Size 18 by 40 feet.

California Bungalow

California is the home of the bungalow. Cool evenings and cold mornings, green winters and brown summers characterize the climate from south to north and from the Sierras to the coast range.

A little fire in the grate feels comfortable once or twice a day in spring and fall and a little heat is absolutely necessary to a tenderfoot in winter.

But about this particular bungalow design—there is no law against building it in any other state and that is why we have planned a cellar the full size of the house.

In California the natives are too proud to admit that they need a cellar, but sensible fellows in other states build after this plan and take great pains to make the cellar a very important feature.

The plans call for 7½ feet of head room in the cellar, to give the proper depth for a warm air furnace, which is usually placed about in the center of the plan, some 10 feet from the kitchen chimney; so the shortest and most direct heating pipes will lead to the large living room and to the dining room.

This big living room is a very attractive feature. In size it is 19 by 14 feet, with

plenty of light and with a nook for books and a cozy corner in which to read them; both placed conveniently at the sides of the fireplace.

A triple casement window is built high enough in the exposed wall to place a fine big davenport under it and still have room in the outside corner for a large easy chair.

The proper placing of furniture is receiving more attention from architects than formerly. Comfort depends upon many little details. Life

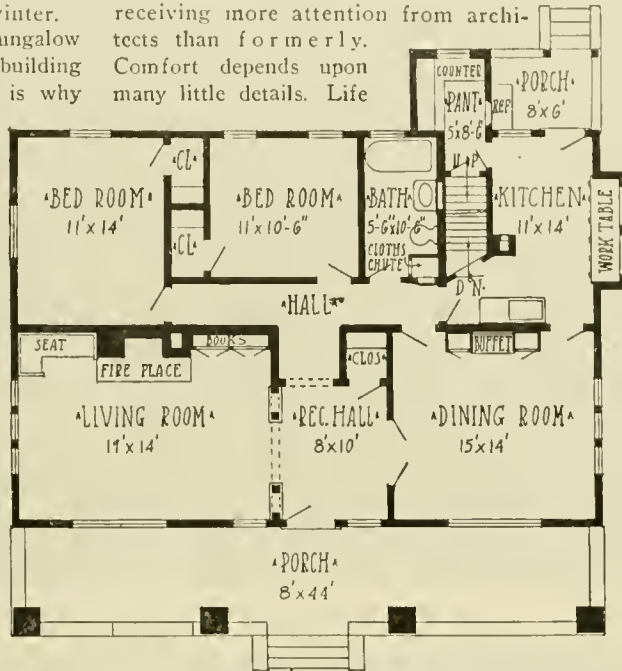
is made up of little things which in the aggregate amount to more than the big things, because there are so many of them.

The front door opens into a rather large, comfortable reception hall which really is an adjunct to the living room and is in very close connection with the dining room.

The rear porch with its cove to hold an ice box, also the large pantry, would be appreciated by every housekeeper.

There is a box window built on the side of the kitchen that adds a great deal to the pleasure of doing kitchen work. It is seldom that a kitchen table is treated to the luxury of having sufficient light. A lemon pie always goes together in the proper proportions when the ingredients are mixed together in a nook like this.

A real bungalow requires a lot of veranda room; and this plan supplies it in abundance. Any good housekeeper would take great delight in furnishing a good bungalow veranda as an outdoor reception room. The many inventions in porch and loggia furniture offer materials sufficient for many interesting dreams of such summer parlors.



Arrangement of Bungalow, Size 44 by 29 feet.



A Typical California Bungalow Design. It is 44 by 29 feet in size, having five rooms and a bath room, with a good cellar and a stairway to the attic. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6607 H.



A Dignified Dining-Room Treatment, with Beautiful Combined Fireplace and China Cabinets.



Dining Room with Circular Wall Very Beautifully Decorated with Grass Cloth above the Plate Rail; an Imitation Leather Below.



Up-to-Date Cement Stucco Residence of Seven Rooms. Two and a-half stories and basement. We can furnish complete set of blue-printed working plans and typewritten specifications, for only \$12.00 per set. Blue-prints consist of basement plan; first and second floor plans; attic or roof plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6591 H.

Seven-Room Modern Cement Stucco Residence

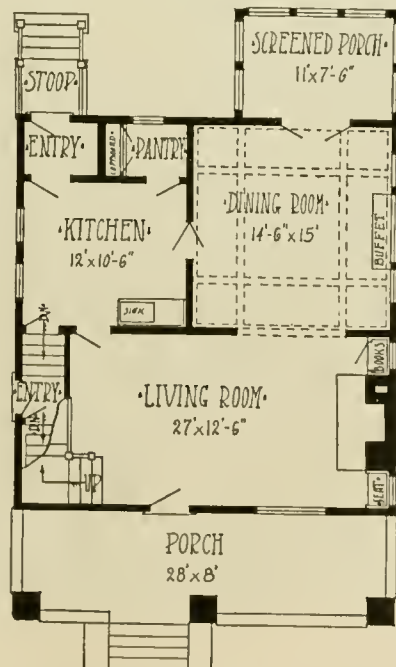
A few years have wrought a great change in the attitude of house designers toward the use of cement stucco. A thorough knowledge of this material, and modern methods in its application, have not only given us houses of comfort and long life, but also opened up a field of wide decorative possibilities and of very considerable economy. For the stucco house, properly built, is not only very substantial and durable, but much cheaper than a similar structure built of stone or brick.

Stucco lends itself to any decorative scheme that depends on the immediate surroundings of a house, as it harmonizes well with nature's varied colors. It is fast growing in popularity as a decorative medium in house construction.

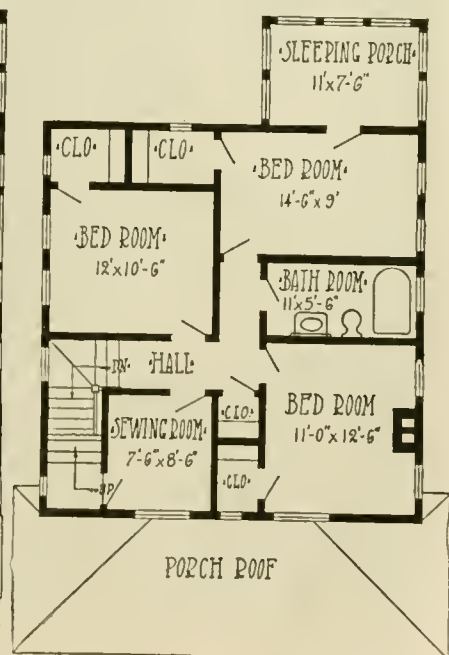
Advanced modern ideas in design, arrangement, and equipment with conveniences, are embodied in the house here illustrated. The living room, entered directly from wide front porch, and stretching across the front of the house, has a large fireplace at the right end, and leads through a cased opening into the large, beamed-ceiling dining room, off which, at the rear, opens a screened porch. Doors from dining and

living rooms open directly into kitchen, which may also be entered through vestibule from back stoop, or by ascending steps from landing at side entrance, whence steps also lead to basement.

Upstairs is reached from living room. Central hall, with extra closet, opens into three bedrooms (each with its own closet), also into sewing and bath rooms. Off rear bedroom is large sleeping porch.



First-Floor Plan



Second-Floor Plan

Seven-Room Modern Cement Stucco Residence, Size 28 by 29 Feet, Exclusive of Porches.



Commodious Bungalow of Nine Rooms. Cement stucco construction. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan, front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6602 H.

Commodious Bungalow of Nine Rooms

Cement houses are no longer looked upon as fads or experiments. They have demonstrated their superiority over frame and brick dwellings in respect of strength, durability, and cheapness, while from the artistic point of view they can be made to conform to the highest architectural ideals.

The design here presented is not only attractive externally, but in interior arrangement is adapted to the most advanced modern requirements.

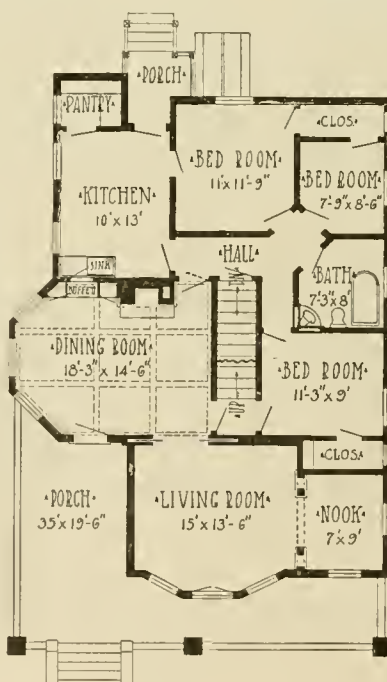
From porch extending across front and partly down left side, one may enter through French doors into living room, with nook at right, or directly into the large bay-windowed dining room with its beamed ceiling, fireplace, and built-in buffet. Dining room is connected, through sliding doors, with living room. Staircase is in center of house, a small hall off dining room giving access to stairs to second floor, and to bedroom at right, which may also be entered from rear hall, from which stairs descend to basement and which also opens directly into dining room, kitchen, bathroom, and a suite of two bed-

rooms having a common closet.

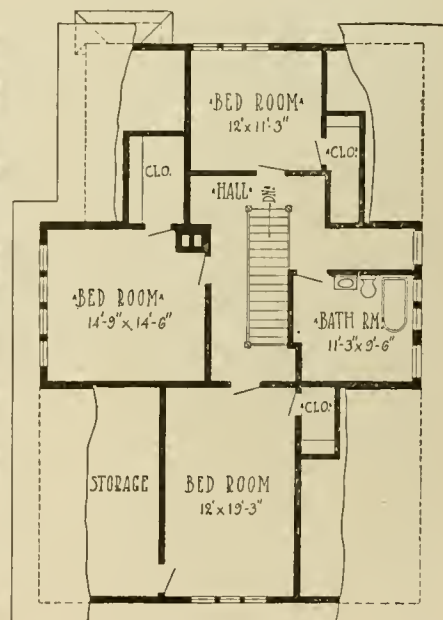
On upper floor is another bathroom opening off hallway around staircase, which gives access also to three bedrooms. Off front bedroom is a spacious storeroom. Each of the six bedrooms has closet accommodation,

and the closets on the ground floor are all lighted with window light.

The lines of this house adapt it best to a spacious lot and an artistic rustic or garden setting. It would look well in white or gray cement, with brown-stained trim.



First-Floor Plan



Second-Floor Plan

Nine-Room Cement Stucco Bungalow; Size, Over All, 35 Feet by 53 Feet.

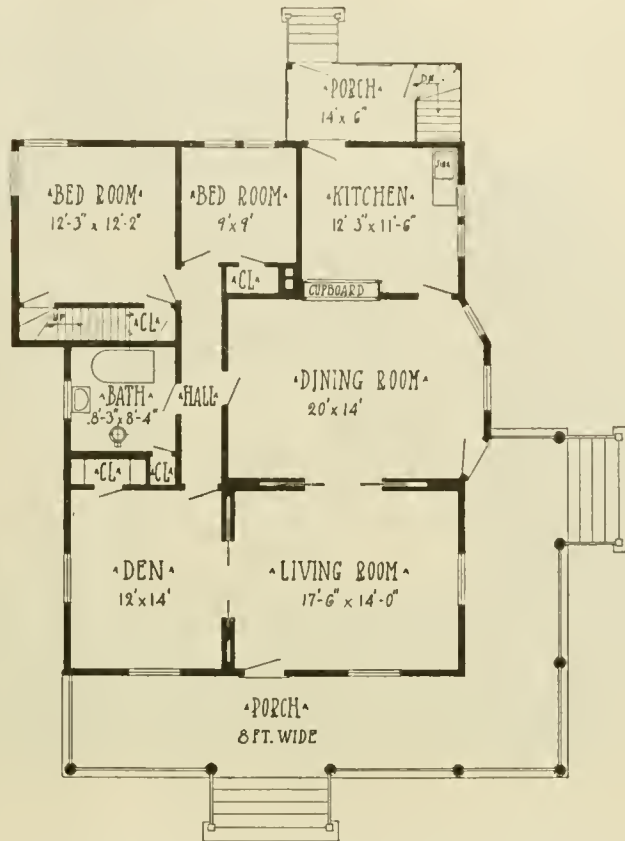
Six-Room Bungalow

A six room cottage with a good attic is illustrated in this design. The size is 37 feet 6 inches by 42 feet.

Owing to the shape, it divides nicely into six very comfortable rooms. About half of the floor space is thrown into the living room and dining room with sliding doors between. When these doors are wide open, these two rooms are like one, but there are times when comfort requires that the doors shall be closed.

The dining room, 14 by 20 feet, is unusual except in country houses, where there is plenty of ground space. Added to this, the living room, 14 by 17 feet 6 inches, gives an idea of the commodious planning of this attractive cottage home.

A very comfortable feature both in appearance and utility is the long veranda, 8 feet wide, reaching clear across the front of the house and half way down the side. On the first floor there are three



Floor Plan of Bungalow. Size, 37 ft. 6 in. by 42 ft.

bed rooms and a den, which is intended for a bed room when necessary. For extra occasions there are two gables in the attic which may be worked into sleeping rooms. The cottage however is supposed to be complete without using the attic except for storage purposes. For this reason the stairway is placed pretty well to the rear.

Especial attention is called to the bath room, with its large window and linen closet. Modern civilization requires more bathroom facilities than ever before. Modern plumbing is better and cheaper than it was ten years ago, so that every new house may have modern plumbing conveniences at very little additional cost.

It is a country style house and it requires plenty of room. The words "country comfort" are spread all over this design and look out from each window with an invitation for a more intimate acquaintance.



Country bungalow containing six rooms and a splendid attic. Size 37 feet 6 inches by 42 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consists of basement plan; roof plan; floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6609 H.



Cement Block Bungalow of Seven Rooms. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6611 H.

Cement Block Bungalow of Seven Rooms

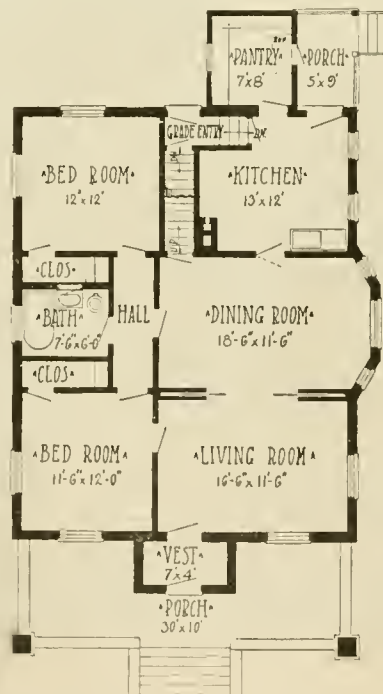
The old, congested districts in cities seldom increase in population to any great extent; the growth is in the outlying districts and suburbs and country towns, where increased transportation facilities have been making it cheaper and quite as convenient to live. For such locations, the bungalow affords what appears to many to be the ideal type of house—not too large nor too small, the maximum of space for the minimum of cost. Its popularity among workingmen and the so-called "middle" classes, is one of the noteworthy features of the building world to-day. A modest home of this sort is not only within the reach of everyone of moderate income, but is well worthy of his dignified ambition.

A bungalow requires a little more room than an ordinary house of same plan dimensions. It should never be cramped for space, but appears to best advantage on an open lot with lawn or garden around.

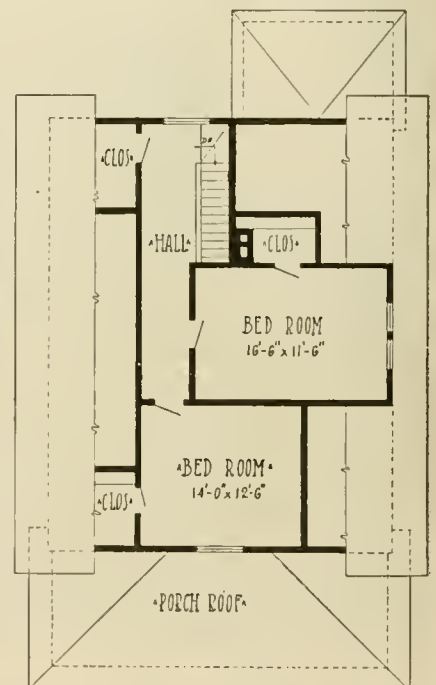
In this design, front and rear bedrooms are provided on left side of house on main floor, with bathroom between, off connecting hall. The living room, at the right side of the house, opening off the front bedroom, is entered through vestibule in middle of wide

porch extending across front of house, and is connected en suite, through sliding doors, with large, bay-windowed dining room; and this, in turn, through swinging door, with kitchen, which may also be entered from back porch or by ascending steps from grade entry,

whence stairs lead to basement. Going upstairs from dining room, we find two large bedrooms and extra closet opening off hall. Each of the four bedrooms has its own special closet—a feature that appeals especially to the housewife; and every room is well lighted.



First-Floor Plan.



Second-Floor Plan.

Seven-Room Cement Block Bungalow. Size, 30 by 38 Feet, Exclusive of Porches.

Square House Sided with Roll Roofing

A comfortable, rather imposing residence for a country home or large city lot is shown in design No. 6614. It is a square, solid house, with a veranda extending clear across the front. A sun parlor, built as an adjunct to the big living room, is one of the attractive features of this design. Sun parlors are becoming quite fashionable. They are recognized as being conducive to health, in addition to the decorative features.

A novelty of this design is the outside finish. The panels are made of mineral surfaced roll roofing, the slate chips or fine gravel being so thoroughly incorporated as not to wear off, at all times retaining the natural colors and interesting variegated tints. It is said to be economical because the colors are durable so that painting is unnecessary. In fact, the idea is to substitute a cheaper, better looking and more durable material to take the place of wood and paint, or of stucco.

The general design of this house calls for a hip roof. Hip roofs are as old as architecture, but they are just as popular as ever when employed to cover a house of this shape.

For genuine comfort it would be diffi-

cult to design better floor plans than these. Every facility for convenience and comfort has been provided in a very thorough manner. From the big front veranda to the back porch, and from the cellar to the roomy attic, every square foot of floor space has been utilized for some specific purpose.

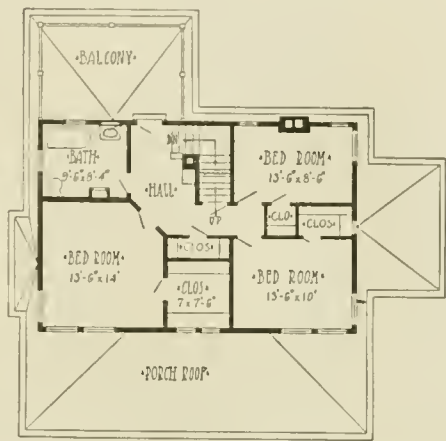
It is unusual, even in a large house, to see a living room large enough to match up with this one. And the sun parlor annex is extra. That was hitched on to stir up strife and envy among the neighbor women.

There is a combination stair in this house that permits the housekeeper to run upstairs from the kitchen to look in the glass before answering the door bell.

At the back of the house is a fine rear porch overlooking the rear garden. A latticed screen, covered with climbing vines, extends back from the side of the porch steps. This interesting family garden is planted to all kinds of hardy flowers arranged to keep bloom in sight from snowdrop season in early spring to scarlet salvia late in the fall.



First Floor Plan



Second Floor Plan

Arrangement of House, size 36 by 28 feet.



A large square house with paneled siding. Size 36 by 28 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6614 H.

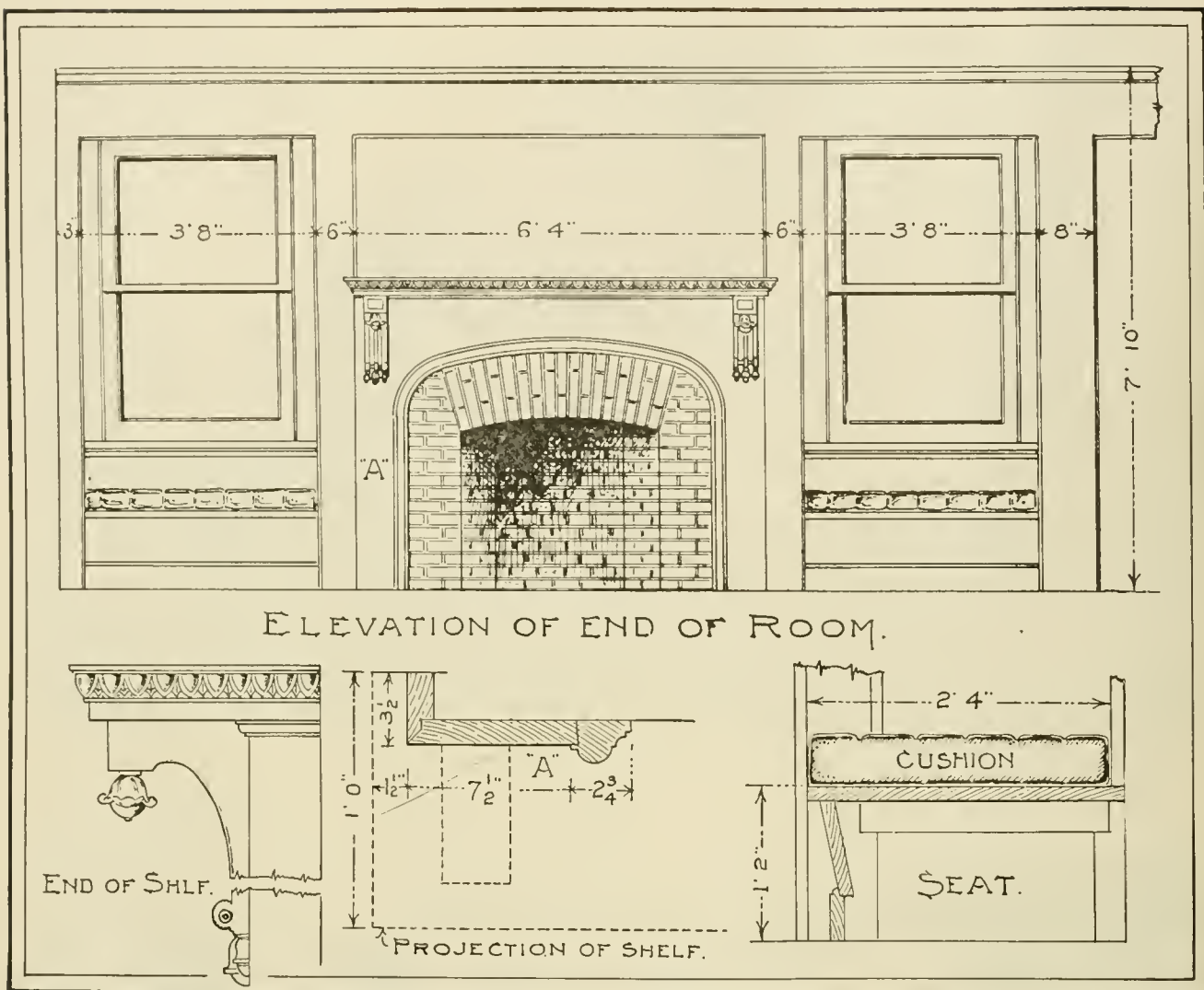


Photo and Dimensioned Drawings of Fireplace with Built-in Window Seats.



Carefully planned home of seven rooms and an attic, besides screened loggia. It is 28 feet by 39 feet on the ground and 28 feet by 30 feet above the second floor. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6613 H.

Square Built Hip-Roof House

A full two-story house, 28 feet by 39 feet, is illustrated in this design. On general principles a house that is nearly square divides into rooms with less loss of cubic space than houses of other proportions.

This plan has a one-story projection at the rear which was worked into a special feature for the following reasons: The house was designed for a lady who likes to serve meals in the open air when the weather is suitable. She wanted pleasant surroundings without adding unnecessary labor in changing from the regular dining room. So the rear porch was made eight feet six inches wide, extending nearly the whole width of the house. Twelve feet of this porch was covered into a screened summer dining room, which was made to connect with both kitchen and main dining room.

A grade entrance to the cellar and kitchen is provided in the far corner of the back veranda for the delivery of ice.

Upstairs there are three bedrooms, all large and airy, besides a good bathroom and the necessary clothes closets. On the first floor is the large living room and dining room so connected that they are intended to be furnished alike.



First Floor Plan



Second Floor Plan

Arrangement of House, size 28 by 39 feet.



Bungalow-Style Cement Block and Stucco House of Eight Rooms. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. In ordering, mention Design No. 6617 H.

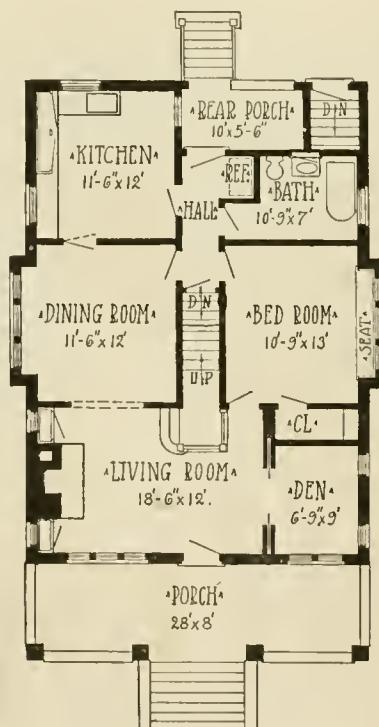
Eight-Room, Bungalow-Style Cement Block Residence

The bungalow, like war, is one of the ideas savage races gave to civilization, but, unlike war, is a good thing, to be fostered. It evolved itself naturally in different tropical countries that had no communication with one another. The black man of Africa's jungles, the brown man of India, both built bungalows much alike. White men appropriated the idea, and have made improvements in plans and materials, so that in regions of widely varying climate, from the moss-covered tundras of the Far North, to the sage-brush plains of the desert or the lily-decked designs of the Tropics, the bungalow is to-day a prominent style of residence. It is the house of all houses for those who like airy lightness without and cosy comfort within. It has taken a deep and lasting hold on American taste, which is reflected in many different ways.

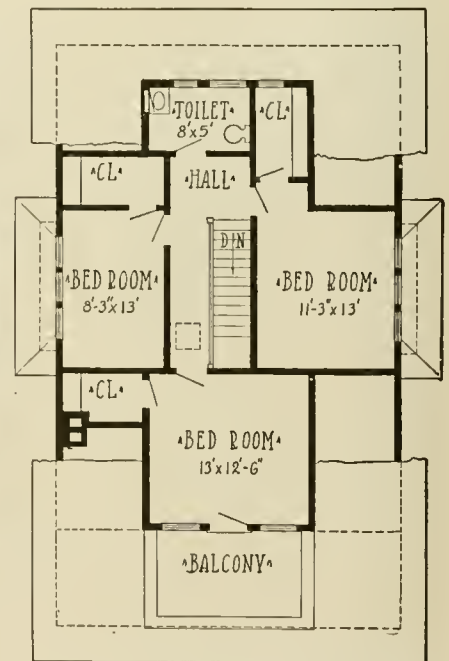
In the design here shown, a living room with mantel and built-in bookcases at one end, and den at the other, occupies the front, entered from porch through central door directly opposite which are stairs to second floor. Off living room, at left, is dining room, with kitchen at rear, and, at right, a bed-room, with window seat, opening into rear hall

that connects directly with bathroom, kitchen, rear porch, and stairs to basement, which is also entered by stairs

from grade at rear right. Upstairs are three bedrooms, toilet, and front balcony.



First-Floor Plan.



Second-Floor Plan.

Eight-Room Bungalow-Style Cement Block Residence. Size, 28 by 40 ft., Exclusive of Front Porch.

Modernized New England House

Some of the old-style houses are especially attractive when touched up with modern improvements. Design No. 6618 will interest builders who are familiar with such houses in New England.

The porch, which is a renaissance of the old English porch that was adopted in Massachusetts more than two hundred years ago, consists of a roof and two little boxed-in seats. In summer time these seats often are occupied by the men of the house with their smoking outfits. In the cool of summer evenings after supper, the girls find them convenient for informal receptions.

But the real outdoor living room is a loggia opening from the large living room. This loggia is supposed to be very handsomely furnished with what is usually termed "porch furniture," which consists for the most part of willow work, or woven grasses, and the colors are generally greens of different shades to suit individual tastes.

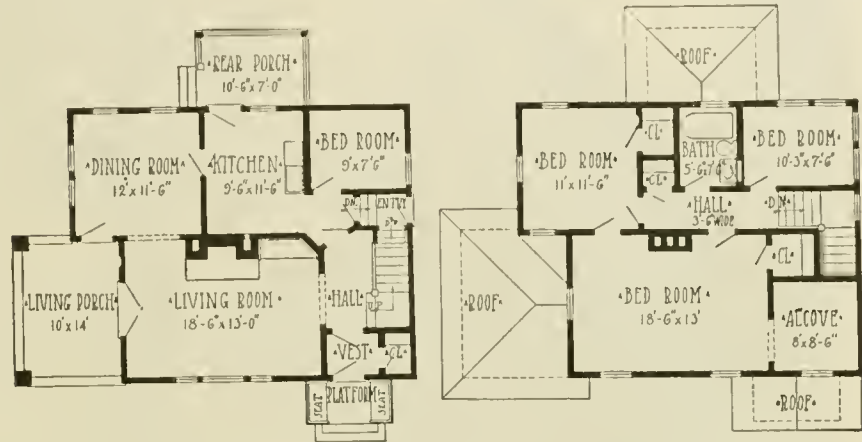
Loggias differ from porches in that there is no outside entrance. In this case, there are two doors opening from the house to the loggia, one from the dining room and one from the living room. A loggia like this is a very pleasant, attractive summer addition to

a home, and one that every housekeeper appreciates.

In planning this house special attention was given to the large living room, which is 13 by 18 feet 6 inches, with a splendid fireplace on one side and a triple mullion window to admit abundant light from the front. There are two corners in the room intended for heavy

which comes in handy for the help. Upstairs there are three bedrooms and a bathroom, with an alcove designed for a sewing room or children's playroom. Too often the rights of the children are encroached upon, and this little room is made to do this public duty.

Altogether the plan is very satisfac-



First Floor.

Second Floor.

Arrangement of House, Size 32 Ft. 6 In. by 26 Ft.

furniture and one corner next to the chimney is taken up with bookshelves.

There is a small bedroom downstairs,

tory for a family of three or four, who wish to live nicely and to entertain moderately.



A modernized New England home. Size 32 feet 6 inches by 26 feet; contains a number of very interesting features. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6618 H.



Modern residence, 22 by 42 feet in size, with a number of interesting features. It contains six inside rooms with all modern conveniences, including sleeping porches and garage. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6619 H.

Small House With Large Porches.

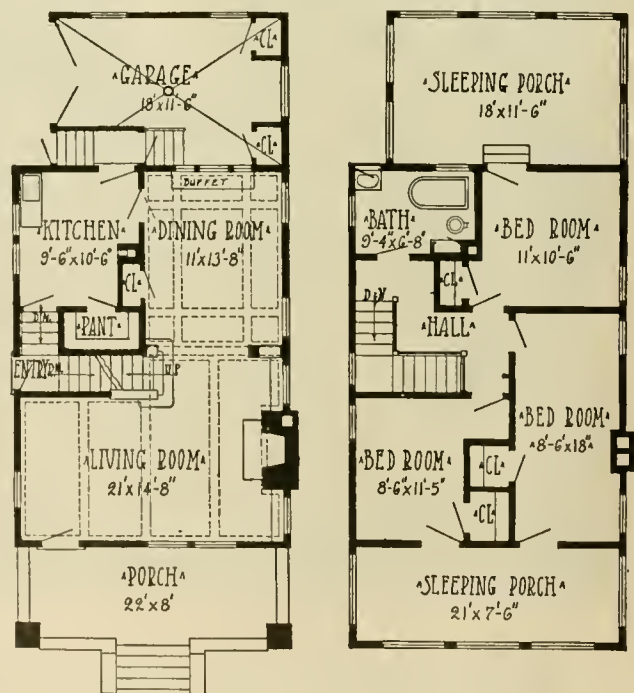
It is not always easy to design a good-looking house for a corner lot that is limited in size. But there are advantages as well as disadvantages in building on a lot of this kind. Design No. 6619H was designed for a small city lot having a corner frontage. It offers some features that are unusual in modern homes.

The planning of the roof is different from the ordinary. The center section was designed to relieve the sameness of a long straight roof, as well as to provide sufficient headroom for the two bedrooms on the north side of the house. The red brick chimney, together with the treatment of the dormer windows, adds an artistic effect on this raised roof section.

The lower floor plan is principally taken up with one large right-angle room, which answers for dining room and living room. The dining end of this great room is supposed to be partially shut off by a colonnade. Another especial feature of this house is the garage. It is 11 ft 6 in. in width by 18 ft. from front to rear. There will be an incline from the street to run the machine directly indoors. Back steps have been arranged to go down into the garage from the kitchen. This garage is supposed to be occupied by one car, though it is large enough to contain two, and still leave room to do the necessary repair work. The garage has a concrete floor, sloping to the center to the drain pipe. It is also furnished with a couple of cupboards to contain tools and a bench with a vise at one end and a tool rack in front of the window.

Over the garage is a sleeping porch enclosed with screens and glazed sash. The sash are supposed to be open except in

extremely cold weather. There is a similar sleeping porch in the front gable of the house large enough to divide in two.



First Floor.

Second Floor.

Arrangement of House, Size 22 by 42 Feet.

Beautiful Four-Room Bungalow

The greatest possible comfort to the square foot of floor space is what architects are working for. This little bungalow was designed for a newly married young woman who wanted a large living room in the end of the house. The arrangement shown in design No. 662611 is the result.

Here we have a bungalow 36 feet by 27 feet 6 inches in size, having a living room 12 by 20 feet. This living room is at the end of the house with two windows looking out on the front veranda. Two other smaller windows are placed in the far side where the light is unobstructed. At the sides of the fireplace chimney are two casement windows placed high enough to accommodate book shelves underneath. Altogether this large living room is as attractive as similar rooms in houses costing a great deal more money.

While there are plenty of windows for light, there is also plenty of wall space for furniture. A study of living rooms shows the necessity of planning the wall space to fit modern furnishings. The present plan of

dividing house space so as to give one large, comfortable room has led to the designing of furniture to match the size of the room. Little, old-fashioned parlor furniture looks out of place in a fine large modern living room. Large, easy chairs of many different kinds and fine,

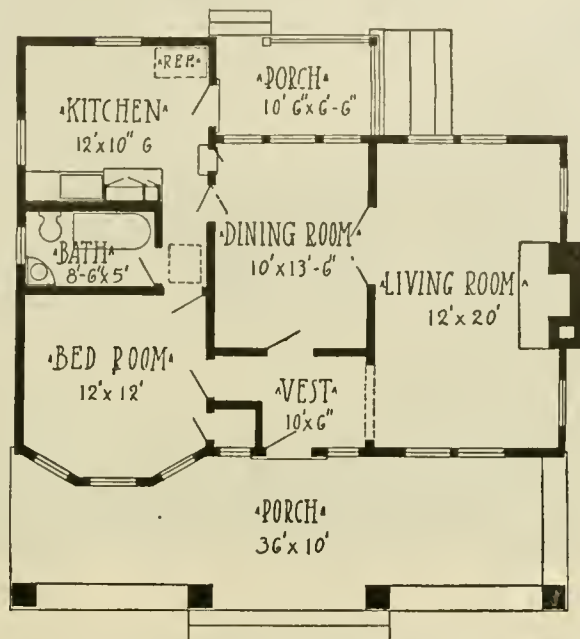
upholstered davenports, with player pianos and the large, new music boxes all require considerable room.

It is difficult to say whether the new furniture was built to fit the rooms or whether these large rooms were designed especially to hold such splendid furniture. Certain it is, however, that the two hobnob together very nicely when they are properly selected to fit each other. All these new finishings are worked out to please the woman because they are the ones who take care of and use the modern creations, while the men help to enjoy them.

The other rooms in this little bungalow are just as important as the big living room, and they are just as carefully arranged and planned for comfort, convenience, and even luxury. A convenient hallway opens into three rooms. Hallways are liked by a great many people, even in bungalows.

One end of this little bungalow is taken up with bedroom, bathroom and kitchen, with a passage or small hallway to connect the three rooms.

The kitchen is about as cheerful as any room in the house.



Floor Plan of Bungalow,
Size 36 Feet by 27 Feet 6 Inches.



Four-room bungalow, 36 feet by 27 feet 6 inches in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue prints consist of basement plan; roof plan; floor plan; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6626 H.



Seven-Roomed Cement Plaster Cottage of Semi-Bungalow Type. We can furnish complete set of blue-printed working plans and typewritten specifications, for only \$8.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6623 H.

"Nifty" Cement Plaster Cottage of Seven Rooms

Real estate men and speculative builders have helped to fill our cities with more or less unsightly dwellings; but we are gradually rising to a higher plane, and shall soon feel the wave of reform brought about by a keener insight into the needs of the people, both from the artistic standpoint of the architect, and from the desire on their part to enjoy the charm and comfort of a real home.

The building of a home has become a living art, in which the highest ideals are brought into practical use. Here, as nowhere else, can the personality of the individual be felt; for the home should prove a true setting for the dweller, and no place is successfully designed unless it portrays to some extent the character of the owner.

Aside, however, from the ideals of aesthetic taste, there are practical considerations that must enter the planning of every home—the conditions of the site, the size and style of house appropriate for it, the actual needs of the owner, the cost, etc. It is in the endeavor to fit in with what might be called an average in these respects, that we submit the homelike cottage design here shown.

This house is an up-to-date home for convenience and comfort, for a moderate-sized family. In its general lines, it conforms to the popular bungalow style, modified with the great convenience of a second story containing two bedrooms, each with

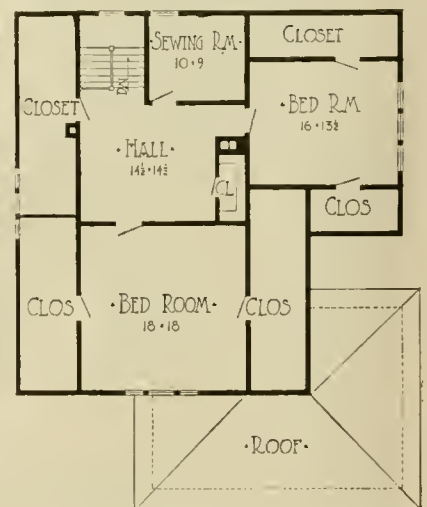
two closets, besides a sewing room and two extra closets opening off the hall.

The stairway is at back end of house, opening off a hallway on ground floor, which extends across from the bedroom at the right rear, and which also connects with bathroom, kitchen, and the nook (with its fireplace) that forms, through a colonnaded opening, a rearward extension of the large living room. From the

hallway, stairs run up to second floor, also down to rear entrance at grade, and thence to basement. The living room and its nook extension connect directly on the left with the beamed-ceiling dining room, through a colonnaded opening facing the built-in window-seat at the opposite end. It is entered directly from front porch, which leads around at right also to screened porch connected with bedroom.



First-Floor Plan.



Second-Floor Plan.

Seven-Room Cement Plaster Cottage of Semi-Bungalow Type. Size, 42 Ft. by 41 Ft. 4 In., Exclusive of Porch.

A House of Extra Comforts

A plan that is well nigh perfect for a small house is given in Design No. 6631. This little house is only 30 by 24 feet, and one and a half stories, but the arrangement of the rooms is so complete that it might be called a "little, big house." It is constructed of light scantling in the usual way, covered with clapboards.

The perspective, however, shows careful treatment for outside appearances, while the floor plans reveal a very carefully laid out arrangement of rooms. One of the distinctive features is the large brick chimney, embellished with terra cotta shoulder pieces and chimney cap. These pure white finishing touches contrast splendidly with the dark red brick of the chimney, while harmonizing with the white mortar lines.

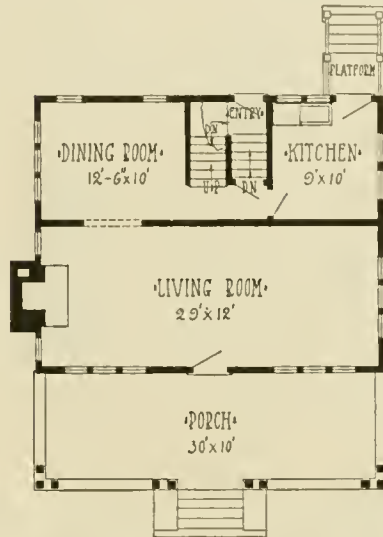
One main, straight-away roof covers the house and front veranda. The manner in which the veranda is built in under the front of the house roof adds a sense of solidity to the structure, and apparently increases the size of the house. The front veranda steps are enclosed between solid looking side walls, which may be used either for seats or to support flower boxes, or as pedestals for heavy plant urns.

Such a veranda is a great addition to a house in summer time, because there is room enough for modern porch parlor furniture in one end and a large swinging seat in the other end.

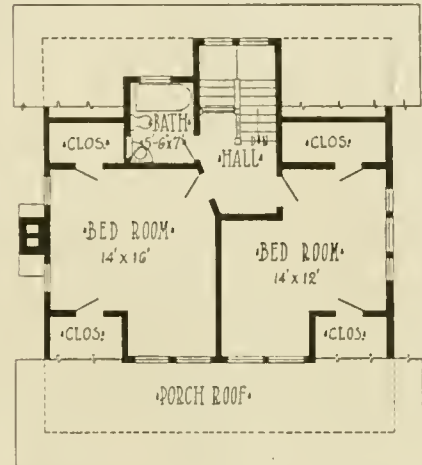
A great living room, 29 by 12 feet, with a splendid fireplace in one end, is the main feature of the first floor. There is also a comfortable, medium sized kitchen and a good dining room, besides

stairways leading both up and down.

Upstairs there are two bedrooms and a bathroom very conveniently arranged. In this plan advantage is taken of four corners under low parts of the roof for four good clothes closets, two for each bed room, which arrangement leaves nothing to quarrel about. No room is wasted in hallways, either upstairs or downstairs.



First Floor.



Second Floor.

Arrangement of House, Size 30 feet by 24 feet.



Small house of five rooms with an exceptionally pleasing arrangement. Size 30 by 24 feet. We can furnish complete blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6631 H.

Home with Special Kitchen Conveniences

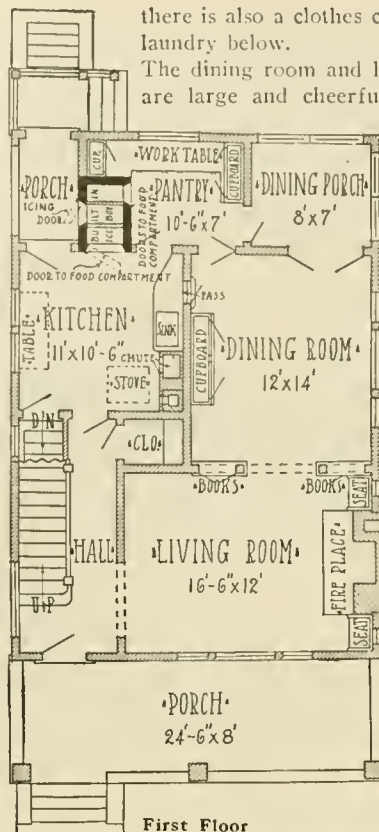
Realizing the importance of the refrigerator and its proper placing, we have prepared the accompanying set of plans, working in just the opposite from the ordinary way. Instead of beginning at the front of the house and working back, assigning whatever odds and ends of space there might be left (after planning the front rooms) to the kitchen and pantry, we began by laying out a model kitchen and pantry containing a built-in-place refrigerator, all planned exactly as we believe the business end of the home should be planned; and after that was accomplished the remainder of the design got what was left. The result is certainly a model of a six-room modern residence.

Make a careful study of the accompanying floor plans. Note the convenient arrangement of the kitchen with its well-lighted work table, sink and drain-board right by the range; see the extra large, well-lighted pantry with work table and cupboards, and equally short distance into either dining room or screened porch, which is used as a dining room in warm weather. The cellar stairs go down out of the kitchen, and

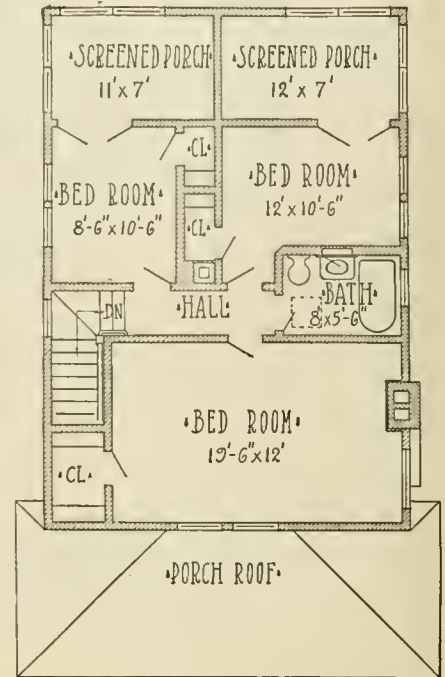
there is also a clothes chute to the laundry below.

The dining room and living room are large and cheerful. On the

second floor are three bedrooms, the front one very large, and the two smaller bedrooms each with a screened porch adjoining.



First Floor

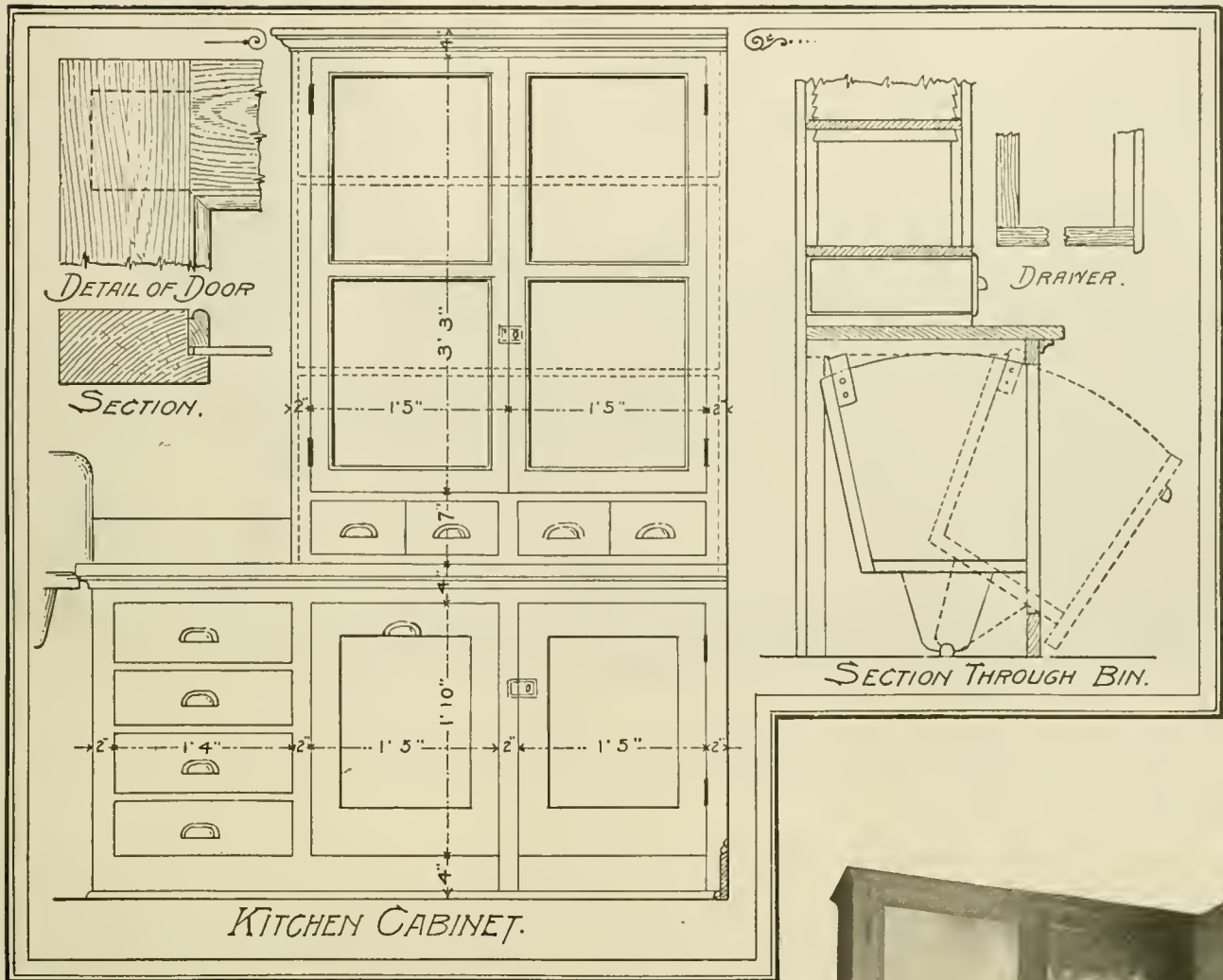


Second Floor

Arrangement of Residence Size 24 Feet 6 Inches by 35 Feet.



Modern Six-Room Residence Featuring Built-in Refrigerator of Special Convenience. A Very Interesting Design, Size 24' 6" by 35'. We Can Furnish Complete Set of Blue Printed Working Plans and Typewritten Specifications for Only \$7.00 Per Set. Blue Prints Consist of Basement Plan; Roof Plan; First and Second Floor Plans; Front, Rear, Two Side Elevations; Wall Sections; and All Necessary Interior Details. Specifications Consist of Twenty-two Pages of Typewritten Matter. When Ordering, Ask for Design No. 6629 H.



DIMENSIONED DRAWINGS OF KITCHEN CABINET
SHOWN BELOW.

Scale $\frac{3}{4}$ = 1'-0", and $\frac{1}{2}$ Full Size. Material for Cabinet, Birch, Pine, Poplar, Cypress or Gum; Work Shelf Maple.



Kitchen cabinet being built.



Finished and in place; a kitchen convenience.



An elegant home of generous proportions. Size 36 feet, 6 inches by 32 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6633 H.

Elaborate Cement Stucco Bungalow

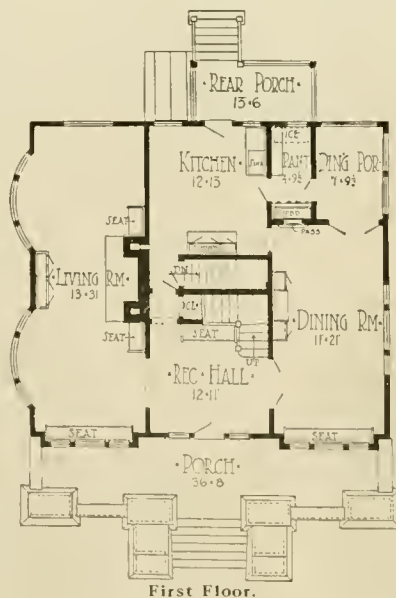
Chief among the special features of this beautiful bungalow is the great living room, 31 feet long, and occupying about one-third of the first floor. Two rounded bay windows with round roofs give a distinctive outside appearance to the sunny side of the house. This large living room is supposed to look toward the most interesting scenery. In the rear of this great room is a window set with fancy art glass, placed high enough above the floor to accommodate large pieces of heavy furniture underneath. There is a large fireplace in the center of the north side of this great room, which is designed especially to harmonize with its surroundings.

The wide roof projection over this end of the building is about equal to the projection of the small circular roof over the bays. The same effect is maintained in the front roof dormer, the corner gable and veranda projections.

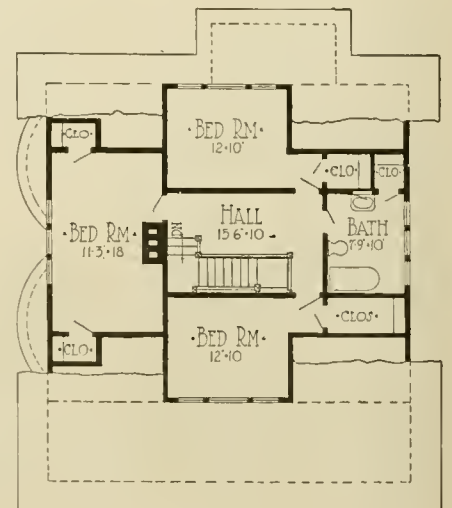
The front veranda is especially interesting from the manner in which it is built. The heavy front wall, with its corner piers and stepped center piers, present a massive front, which is both artistic and imposing. Spanning this front from one corner pier to the other, a distance of 30 odd feet, is an archway which supports the roof. This archway leaves the view through the front windows free from obstruction, and the artistic effect is especially pleasing.

The wide spreading bungalow roof style of dormer, the windows of which light the front bedroom upstairs, is another very pleasing feature in the construction of this splendid house. This dormer and the two large gable ends of the house are finished in the same

rooms is practically all stolen from the attic. The expense is principally in the foundation and lower story. While the bedrooms are well planned and nicely arranged with plenty of room, the idea of planning them in this way is a noticeable economy.



First Floor.



Second Floor.

Arrangement of House, Size 36 feet 6 inches by 32 feet.

general manner, but are not exactly alike.

To match cornices without making exact copies is an art in building that is being studied by leading architects.

In this house, the space for the bed-

The first floor plan shows a large reception hall of elegant appearance, due partly to the fine open stairway built of carefully designed artistic millwork.

Another interesting feature of this plan is the loggia dining porch.

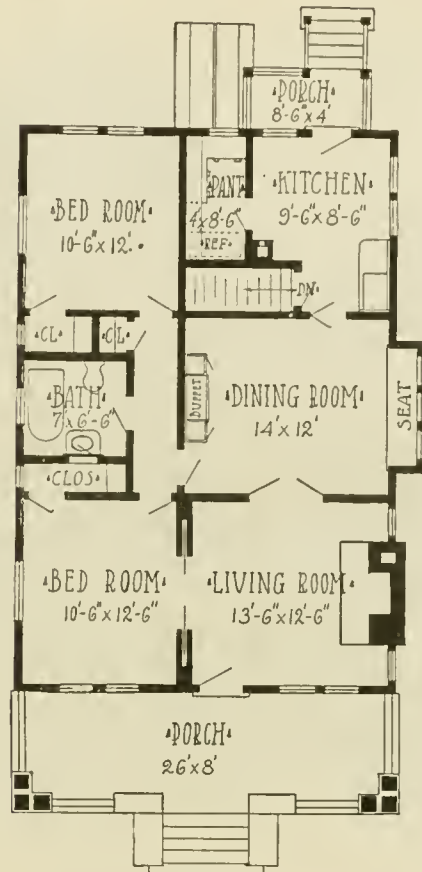
Bungalow for Small Family

Three good sized family rooms and two splendid bedrooms are laid out on the floor diagram of this attractive bungalow. The main part is only 26 by 38 feet, 6 inches in size, but the veranda across the front adds another ten feet to the depth of the building.

This veranda, by the way, makes an interesting summer addition to the bungalow, both as regards comfort and looks. Being covered by extending the main roof, it snuggles up close to the house proper in a comfortable, sociable manner, suggestive of ease and luxury.

This plan provides a good cellar with walls high enough to provide head room for a warm air furnace. There is an outside entrance to the cellar at the back, which is a great convenience when putting fuel into the cellar and when carrying out ashes. Again, on wash-days, an outside entrance is appreciated. It is much better than a window to let air into the laundry and to let the sudsy smell from the clothes boiling float out into the atmosphere instead of penetrating up through the house. Also it makes an easy exit to the clothes line in the back yard.

Bungalow cellars are larger than house cellars, and they should be well used to get returns for the extra excavation and cost of walls.



Main Floor Plan.

Size 26 feet by 38 feet 6 inches.

The construction of this beautiful bungalow above the cellar wall is of the usual sills, joist and 2 by 4 studding, boarded outside with ship lap. Next is layer of building paper, worked around the windows in such a way as to double the important places. The window frames are made to include shingles under the outside casings, so the shingles are fitted close up to the frames and the casings close against the shingles. The shingles are nailed on the same as the roof, except that a greater butt surface is exposed to the weather.

Rough finish, dark brown brick are used for the chimney, because the effect matches up well with the shingle siding. The roof has a little steeper pitch than the regular bungalow construction calls for. Typical bungalow construction requires a very low ridge pole with roofs of slight pitch, but practically the rainfall must decide how a roof should be inclined.

The living rooms are on the sunny side of the house, with one doorway and an archway connection between the living rooms and sleeping rooms. The archway is built for the purpose of making the front bedroom into a library when only one bedroom is required. Both bedrooms are corner rooms, which gives an abundance of light and ventilation.



A pretty bungalow of five rooms, 26 feet by 38 feet, 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6632 H.



A seven-room story and one-half house; 38 feet in width by 25 feet, 6 inches in depth. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6635 H.

Comfortable Town Home

A story and one-half house of neat design and attractive appearance is shown in design 6635H. It is 38 feet in width by 25 feet, 6 inches in depth, exclusive of the front porch. This front porch is unusual by being merged into an open air extension that reaches to the corner of the building with a total length of 38 feet by 8 feet in width. There is a cement floor which slopes slightly outward to carry off the water from rain or melting snow.

Dark colored brick are used for the corners of the porch wall and square roof supporting columns. The same kind of brick are used in the exposed chimney at the end of the house. Uniform caps for all the columns are made of high grade cement, carefully moulded to the proper size to project slightly beyond the brick work. A similar chimney top is used for the finish of the large chimney.

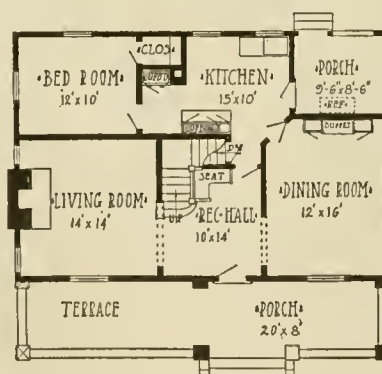
This style of house is what might be called a story and one-half cottage design; but it is quite roomy. The floor plans show the usual living rooms on the first floor, besides an extra bedroom. The living room, reception hall and dining room are connected by wide archways, so the three rooms are almost like one big room extending across the house. A handsome stairway in the reception

hall with a seat in the corner gives the impression of size. A passage way from the reception hall to the kitchen is closed by a doorway built under the turn in the stair. The entrance door to the cellar is also in this little passageway, and is easily reached from the front part of the house.

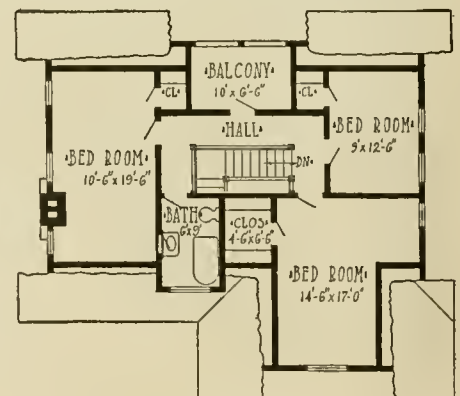
There is no regular pantry, but there are plenty of cupboards and a kitchen cabinet to provide necessary storage for kitchen paraphernalia. There also is a

fet and the mullion window to provide additional storage for china.

In building an open stairway, such as this plan calls for, there is a splendid opportunity to select millwork designs that harmonize with the trim throughout the house. Certain kinds of woods are used for inside finish, and these kinds differ in different parts of the country. Millwork is made in patterns to match. The exact designs may differ, but the general idea is carried through to in-



First Floor.



Second Floor.

Arrangement of House, Size 38 feet by 25 feet, 6 inches.

splendid buffet sideboard built across the end of the dining room. It is supposed that a glass cabinet will be placed at the side of the dining room between the buf-

clude window and door trim, cornice mouldings, and exposed parts of the stairway. It costs no more to have woodwork matched up properly.

Western Style Four-Room Bungalow

A neat, well designed, little bungalow is shown on this page. It is 32 by 28 feet on the ground and contains four rooms, bathroom, pantry, and three clothes closets.

The front presents a neat, clear cut and especially attractive appearance. The nearly flat roof, covered with alternate courses of shingles and asbestos ready roofing, presents a unique bungalow effect. The exterior siding in "rustic."

This manner of construction gives a delightful front entrance, trimmed to correspond with the triple mullion window and corner projection of the gables. While the porch looks small, it is 16 by 9 feet, which gives room for comfortable porch chairs in the recesses formed by the low brick walls.

It will be noticed that there is considerable width to the front steps. There is something about bungalow construction that demands breadth of dimensions. This general keynote should be followed through the different details as far as possible.

The living room is 15 by 16 feet 6 inches. There is a coat closet to the left of the front entrance door, which is a great convenience in a small house where storage room is an object. A similar closet off the one bedroom pro-

jects into the living room in the opposite corner, leaving room for a davenport or a wide built-in seat in front of the big side window. This makes a comfortable cozy corner for reading or sewing.

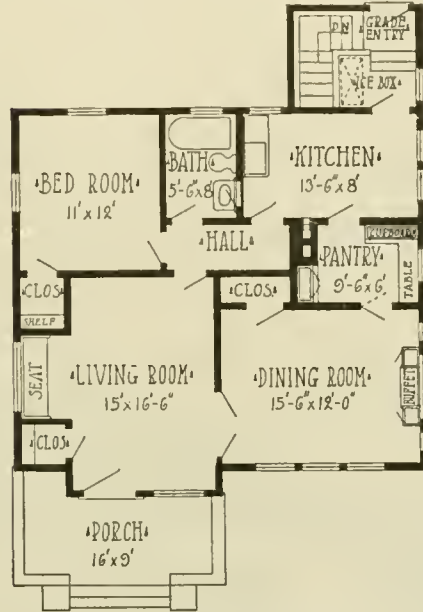
The bedroom is nearly square, being 11 by 12 feet in size, with a good closet for storage. Next to the bedroom and with a door opening from the back hall is the bathroom, which also is generous

in size, being 5 feet 6 inches by 8 feet. This width gives room enough to turn the bathtub across the far end of the room. The bathroom, besides containing the usual bathroom outfit, has also a medicine cupboard built in the partition. This medicine cupboard has a plate glass mirror fitted as a panel in the door.

The arrangement of the dining room, pantry and kitchen is especially good. Where it is possible to connect the dining room and kitchen with a pantry passageway, as done in this plan, the idea is well liked.

Another special feature of the plan is the grade entrance at the back, which gives an enclosed stairway leading to the cellar. Likewise, from the grade entrance there are steps up into the kitchen. This is a sort of storm shed protection to both the kitchen and cellar entrance. It also gives an outside way of getting into the cellar and for carrying out ashes without going through any part of the house. These same steps, together with the floor at the entrance inside the entry door, are made of concrete.

This enclosed entrance way also provides a place for the family refrigerator, so that ice may be brought in without tracking through the kitchen. At the same time the refrigerator is conveniently placed.



Main Floor Plan of Bungalow,
Size 32 by 28 feet.



Four-Room Western Bungalow. Size 32 by 28 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6639 H.

Beautiful Four-Room Bungalow

Here is a very neat four-room bungalow. It is 29 by 24 feet in size, together with an enclosed porch addition, which contains the bathroom and rear entrance.

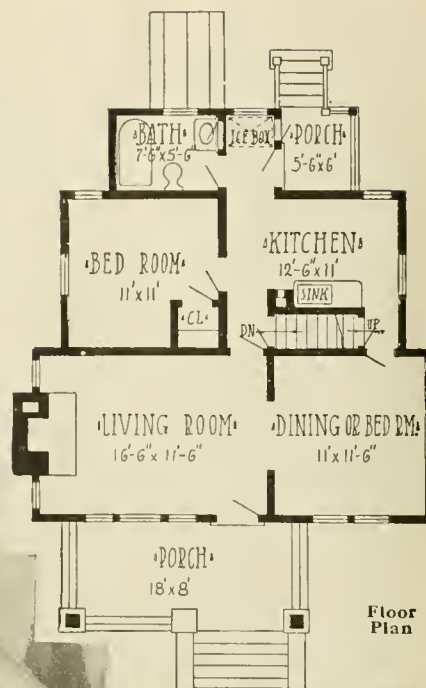
The plan provides for a fine large living room and dining room with an archway between. The idea is that with this arrangement the dining room may be used for an extra bedroom when needed.

Little room is taken up with the stair-

way. It is necessary to have a good stairway to go down into the cellar. The same space is utilized overhead for a stairway to the attic, where considerable storage room is available.

The outside trim of this bungalow is especially interesting, because it gives the little house such a bright, cheerful, cozy, home-like appearance.

The outside chimney of rough brick at the end of the house corresponds with the porch piers.



Four-room Bungalow. Size 29 by 24 ft., with extension. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6641 H.

5-Room Bungalow with Built-In Wardrobes

Perspective and Floor Plans of Artistic Narrow-Lot Bungalow Providing Newest Idea in Space Saving Closet Accommodations—Details and Description of Simple Fixtures Required

IN these times of high prices, every square foot of the modern house has to be put to its best use, and if any scheme can be devised for making one square foot do the work of two, the home builder is the gainer. We are all keen for holding down building costs as much as possible, yet home builders won't stand for any cutting down or doing without on home conveniences.

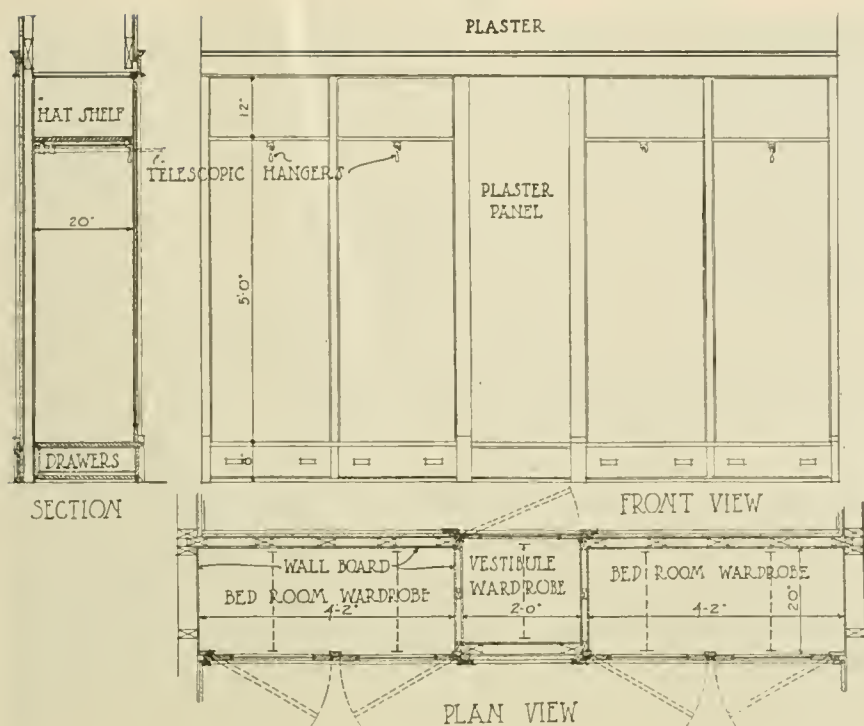
Better and more compact building is what is wanted.

This is a challenge that has stirred the creative ingenuity of manufacturers of building appliances. They have tackled the problem with gusto and in many instances have devised some really worth-while improvements.

Consider, for example, wardrobes or clothes closets. We all know how fussy

the women folks are about having lots of clothes closet space. It seems there can never be quite enough, no matter how large the house or apartment may be. And when it comes to the small flat and the bungalow the wail that goes up because of the little skimpy closets is heard all over the land.

Now ordinary closets take up an astonishing amount of good space. Look



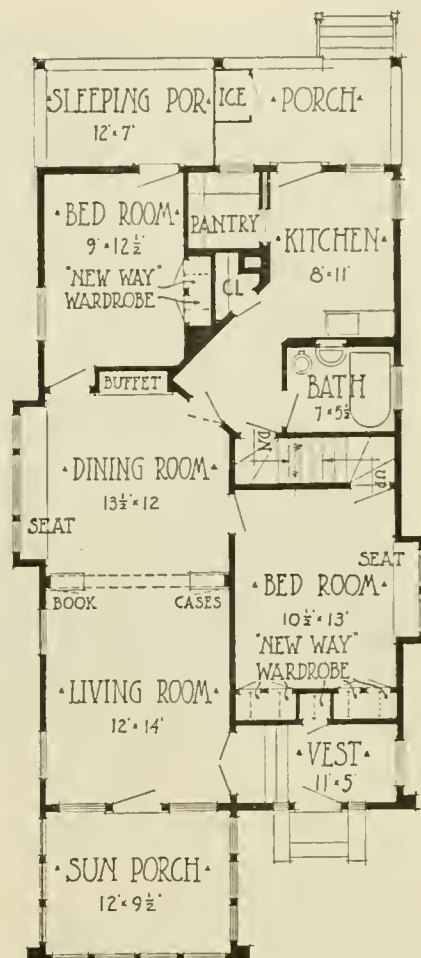
Detail of Built-In Wardrobe in Front Bedroom and Vestibule,
Design No. 6323 H.

at some floor plans, and it seems as if almost half the space is given over to dark closets. This, of course, cuts down the size of the useful rooms.

There is this queer thing about clothes closets, too. The only part of them that is used is the wall space. Valuable

squares of floor surface are fenced off just to provide wall space for hanging up garments.

The Built-In wardrobe solves this clothes closet problem in the logical way. It is an idea that is just coming into use in residences, hotels, office build-



Floor Plan of Space-Saving Bungalow.
Size, 24 by 42 ft. 2 in.



Five-room Bungalow Equipped with Built-in Space-Saving Wardrobes. A practical artistic design; size, 24 by 42 ft. 6 in. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages typewritten matter. When ordering, ask for Design No. 6623 H.

ings, apartments, etc. In designing the bungalow illustrated on the opposite page, four of these built-in wardrobes are provided for. One is in the front vestibule for coats and hats; two double wardrobes are provided in the front bedroom; and one double wardrobe in the rear bedroom. Notice the small amount of space these require. They are only 20 inches deep and each single unit two feet wide; yet each wardrobe containing four square feet of floor space will accommodate from 8 to 16 complete suits or gowns (if anyone has that many). An old style closet to give the same amount of hang-up space would require at least 70 lineal feet of inside walls, which means a closet 4 by

6 feet on the floor.

The illustrations show clearly how these built-in wardrobes are arranged. A metal carrier, nickel finished, is hung from the under side of the hat shelf. From this carriage the suit hangers are suspended. The carriage works on a telescopic principle—a light pull brings the whole outfit out into the room, so that every garment is in plain view to be gotten at. All garments are hung on the suit hangers which keeps them in excellent shape even though crowded close together. It is no more work to hang up a suit or gown on the hanger than onto an ordinary closet hook. At the bottom of each wardrobe is a broad drawer for shoes, etc.

The fixtures required are inexpensive—can be freely used in both new and old buildings.

The use made of the built-in wardrobes by our architects in designing this little bungalow shows how architects and builders are helped out of tight places very often by using these space-saving wardrobes. This bungalow was to go on a narrow city lot and so had to be kept down to a width of 24 feet. Ample wardrobe space was required, yet there was no room for ordinary clothes closets. The built-in wardrobes were provided, and it turns out that they not only do the work much better, but actually save from \$200 to \$300 in the cost of the house.

Five-Room Hip Roof Bungalow

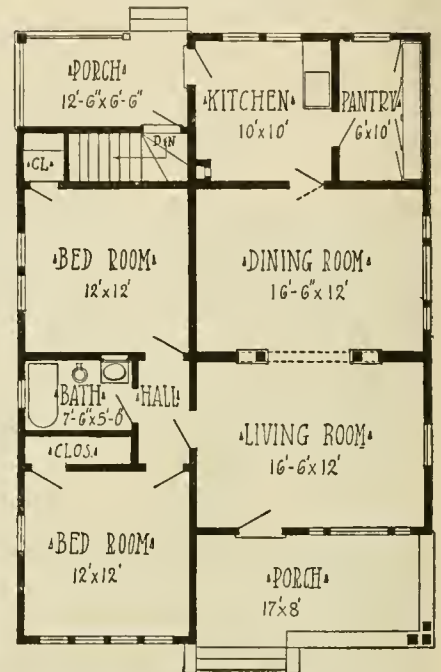
First impressions go a long way towards shaping one's liking for a house. When approaching a bungalow like this, the first impression is that it is about as pretty and inviting as a human habitation could be made.

There is a summer invitation to enjoy the lounging furniture on the front porch that seems to be offered almost as soon as you step from the street onto the private cement walk that leads to the front door. This porch is 17 feet long with the house entrance directly in the front of the steps to the left, which arrangement leaves the end of the porch free for

an outdoor summer parlor.

The floor plan of this little bungalow is almost perfect. On the one side we have three living rooms, splendidly well arranged and connected by doorways and an archway between the living and dining room. On the other side are two bedrooms and a bathroom.

The kitchen, pantry and rear porch all combine to make a domestic workshop that is especially convenient and interesting. Putting the pantry in the corner and providing an outside window and a long cupboard with a worktable top makes the pantry perfect.



A Neat Five-room Bungalow, 30 by 44 ft. in size. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6648 H.



Six-Roomed Bungalow of Cement Brick Construction. We can furnish complete set of blue-printed working plans and typewritten specifications, for only \$8.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and right and left side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, mention Design No. 6637 H.

Cement Brick Bungalow of Six Rooms

Why sane people continue to live in the little pigeon-holes, arranged in tiers, characteristic of the congested residence districts in many cities, when, on the same income, they could own a real "home" of their own, with all the advantages of outdoor life for their families and self-respecting independence for themselves, is hard to understand. It is one of the reasons why American cities in general do not grow more rapidly in population, and why suburban and inter-urban sections are building up, as anyone with his eyes open can see.

The advantages of the bungalow type of house, with its simplicity and convenience of arrangement, its lightening of labor for the housewife, its attractive appearance and ready adaptation to pleasing surroundings, and—last, but not least—its moderate cost, are sufficient to account for the popularity of this Americanized modification of a foreign building ideal.

In building a bungalow, one must always bear in mind that this type of house, to look best, requires more than ordinary room. If possible, avoid building it on a narrow lot where it will be cramped for space, or crowding it in between taller houses. It will appear to much better advantage if you can leave an open space all around.

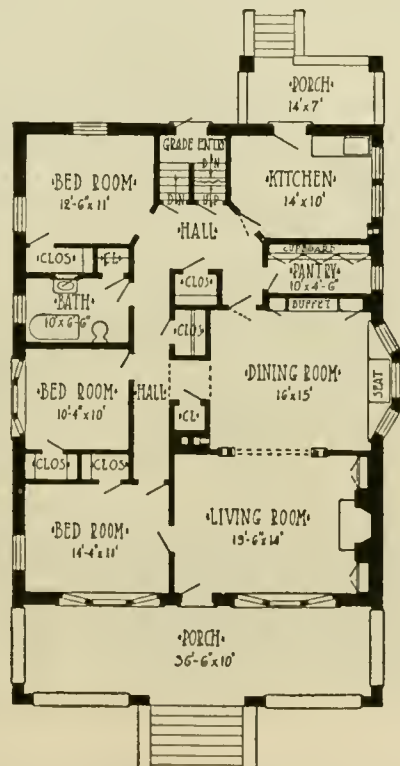
Cement brick has been selected as

the material for building the bungalow here shown.

Although Portland cement, for many constructive purposes—especially in engineering—has lately made such advances as practically to have revolutionized the building world, there are still some fields where its

use has not been exploited to the extent that its advantages might lead us to expect; and one of these fields is the use of cement brick. In durability, fireproof quality, attractive possibilities of color combination, and moderateness of cost, cement brick offer advantages that builders may well consider carefully.

The layout of this house is very convenient. There are three fine, well-lighted bedrooms, each with a clothes closet, all ranged along the left side of the house and connected by a central hall running from front to rear. The bathroom, which has a special closet with shelves for towels, linen, etc., also opens off this hallway, and is located between middle and rear bedrooms. A return of the hallway in the back part of the house gives connection with the kitchen and the dining room to the right, and with the pantry between them. The spacious dining room has a built-in buffet, and is lighted by a bay window with built-in seat. It is also connected with the front-and-rear hall by a passageway at the left end of the room, opposite the bay window; and a colonnaded, cased opening throws it *en suite* with the spacious living room, which connects directly with front bedroom, and which is entered directly from porch extending across front of house. From rear hall, stairs go to upper floor; also down to rear grade entrance, and thence to basement.



Floor-Plan of Six-Room Cement Brick Bungalow. Size, 36 Ft. 6 In. by 48 Ft., Exclusive of Porches.

Cottage House of Bungalow Design

A five-room cottage house, which resembles a bungalow in appearance, is shown herewith. It contains a living room, 17 feet 6 inches by 13 feet 6 inches, with a fine fireplace and an extra large mullion window to give plenty of light.

The plan provides for a front hall 6 by 10 feet. This hall really is part of the living room, but provision is made to close it off in the winter time with curtains as a protection against the cold from the front door.

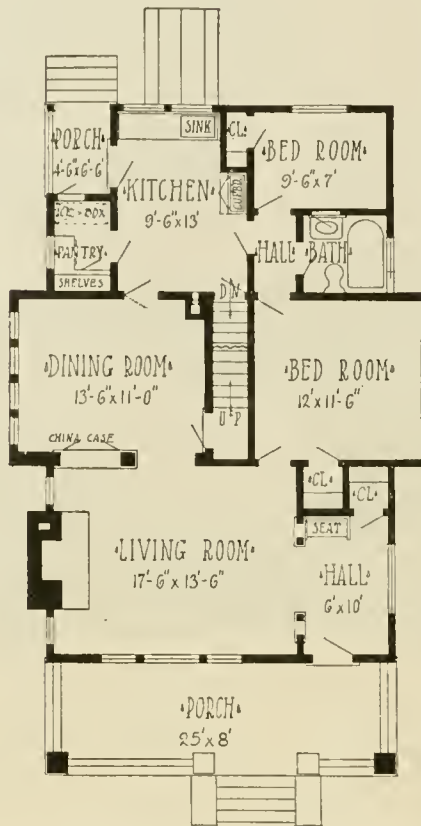
There are two bedrooms and a bathroom on one side of the house, which are connected by means of a short hallway. The bedrooms are carefully planned for the proper placing of furniture without coming in contact with doors or windows.

The bathroom, while small, is very neat and well planned and it is easy of access without being conspicuous.

A rear corner porch with back steps makes a pleasant kitchen annex, which would naturally be used as a sort of kitchen workroom in the summer. There is a small door opening from the porch into the pantry to put ice into the ice-box, a provision which every housekeeper appreciates to prevent tracking dirt into the kitchen.

There is a good straight stairway from

the kitchen down into the cellar. The length is sufficient for easy risers and



Floor Plan of Bungalow, Size 25 by 40 feet.

wide treads. There is so much running up and down stairs from the kitchen to the cellar that special attention is given to this feature. Over the cellar stairs steps to the upper floor are placed. In this house the second floor contains one good room besides storage space.

The outside appearance of the house is rather massive for a house of this size. This effect is produced by the manner in which the front porch is built. The two gables with roofs of different pitch are somewhat unusual in house construction, but it varies the monotony of gable roofs. The manner of paneling the front porch gable also lends variety to the exterior. Stucco panels bordered with light timbers give a different finish that is pleasing as well as distinctive.

No attempt is made to match the chimney by trimming other parts of the house in a similar manner. The chimney is constructed of rough finished reddish brown brick, and stands exposed as a special decorative feature. Altogether, the outside appearance of this cottage house is very attractive. It is also unusual. There would hardly be another house in town similar to it. A good many persons when contemplating building a house study plans to get away from the stereotyped ideas that happen to be common in the neighborhood.



Cottage house containing five rooms. Size 25 by 40 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6642 H.

Shingled Bungalow Containing Four Rooms

A small, neat, and exceptional attractive bungalow is shown in this design. It is 29 feet 6 inches by 31 feet in size, exclusive of the front porch.

The outside appearance is distinctive, because of the manner in which the

one, so that the furnishings of the different rooms are attractive, as seen through the opening.

The vestibule entrance is quite a protection against cold in winter. This arrangement also provides a corner that is utilized to advantage for a clothes closet opening off from the bedroom.

At the rear is a grade entrance with

easy access to the cellar and a few steps to go up into the kitchen. The cellar way is closed off by an extra door, which may be kept closed and locked if necessary. The rear projection for the kitchen gives an opportunity to get an extra window or two.

Also the plan provides for a very convenient pantry, which also is well lighted

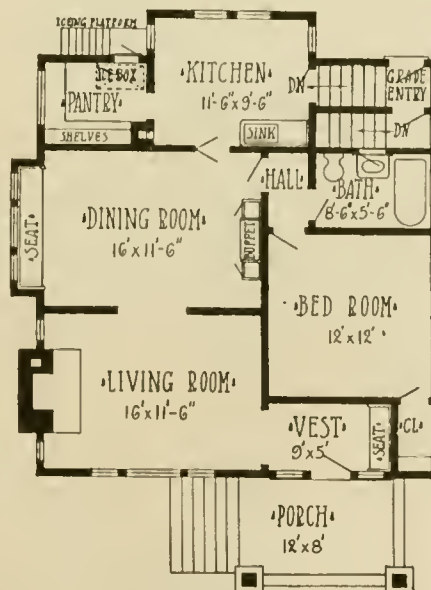


Attractive four-room bungalow sided with shingles. Size 29 feet 6 inches by 31 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6640 H.

gables are treated. A projection out from the dining room to hold a window and built-in seat is protected by an auxiliary roof, projected and corniced in the same way as the main gable. The artistic treatment of gables has always been a study. It seems to have been managed very nicely in this case. The trim of the gabled roof over the front porch corresponds with the other gables. The effect is neither heavy or light, but is characteristic bungalow construction.

The placing of the front porch over to one side leaves the large window in the front of the living room clear of obstructions of any kind, which is a great advantage, both as regards light and the view from the window.

The living room, dining room and kitchen are splendidly well arranged for convenience and for appearance. The archway between the living and dining room makes the two rooms almost like



Floor Plan of Bungalow, Size 29 ft. 6 in. by 31 ft.

by an extra large window. The outside arrangement for putting ice into the ice box is a good one. Altogether the plan is very interesting and very complete.

Provision is made for a good bathroom, a splendid big fireplace in the living room, including all the necessary modern improvements. The interior woodwork is designed to use regular stock patterns of base, mouldings, and other trim, which will match the built-in buffet in the dining room and the fireplace trim in the living room. The intention is to carry the same design through the front part of the house, including the vestibule and bedroom.

The bathroom is intended to be rather severely plain and finished in white enamel. The kitchen trim, while less elaborate than the other part of the house, is also very neat and attractive.

Extra Pretty Eight-Room Bungalow

A Northern bungalow, with a good cellar, five rooms on the first floor and three bedrooms on the second floor, is shown in this design. This house is 34 by 38 feet on the ground. The upper floor is the same width, but is shortened somewhat in the rear, because of the low part of the roof. Still there are three good bedrooms with considerable closet room, besides a balcony at the back. This balcony is intended for

taken up with a large fireplace and book shelves with elevated windows over the book shelves.

The stairway in this house occupies as little space as possible. It is straight up from the living room and straight down to the cellar from the back hall.

A feature that will please housekeepers who are obliged to keep help is the bedroom and toilet on the first floor. These conveniences are practically shut away from the main part of the house.

Another very pleasant feature is the library or den. On one side of this room is wall space especially designed for a davenport placed with one end near the double mullion window, suggesting a quiet, comfortable place for reading.

Outside, the bungalow is sided with shingles stained dark. Some might prefer cement plaster siding or ordinary clapboards. Any of these work out satisfactory, making an artistic bungalow design.

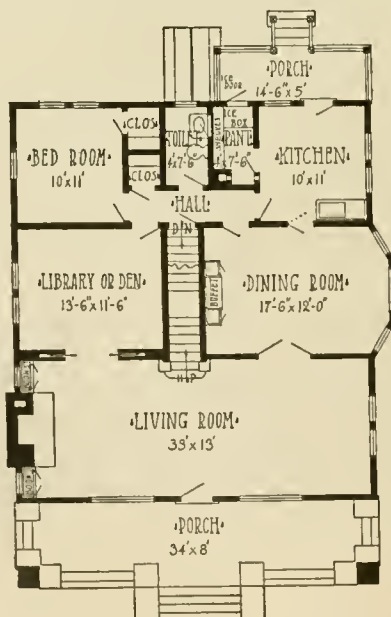


Pleasant Eight-Room Bungalow. Size 34 by 38 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6638 H.

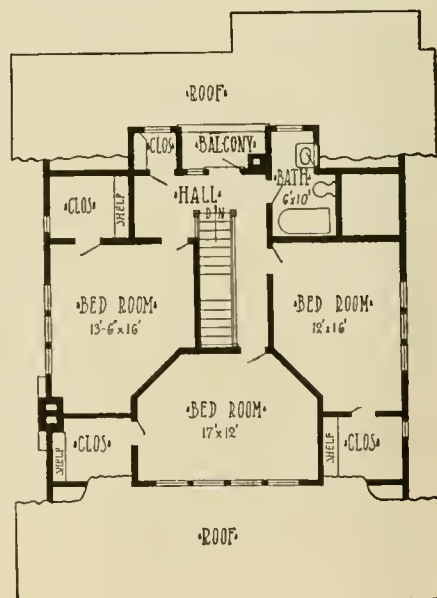
a sleeping porch, if so desired.

The idea of extending the main part of the roof to cover the front veranda is economical in construction and it is very pleasing in appearance. The plan of running a truss from one corner pier to the other leaves a clear view from the big living room windows that is free from obstructions. For the same reason it will be noticed that the railing across the front of the veranda is quite low. There are two splendid large windows in the front of the living room, and the idea of our architects was to admit as much light as possible through these rooms, as well as to have a clear view in front.

Large living rooms are not only fashionable, but they are comfortable, especially when built light and airy as this one it. Thirty-three feet in width by 13 feet in depth gives room enough to move about. Such a room may be comfortably well furnished without creating a crowded appearance. One end is

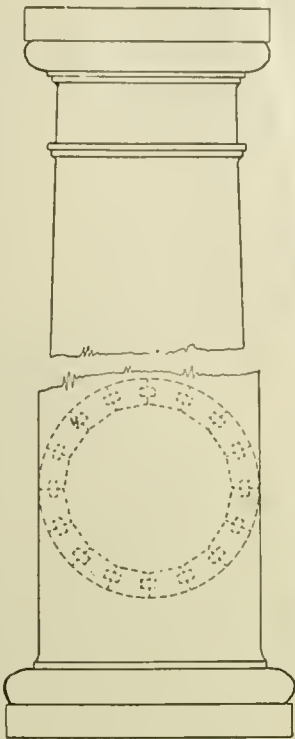


First Floor.

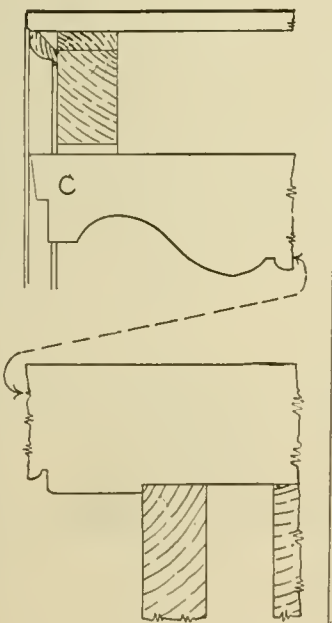


Second Floor.

Arrangement of House, Size 34 by 38 feet.



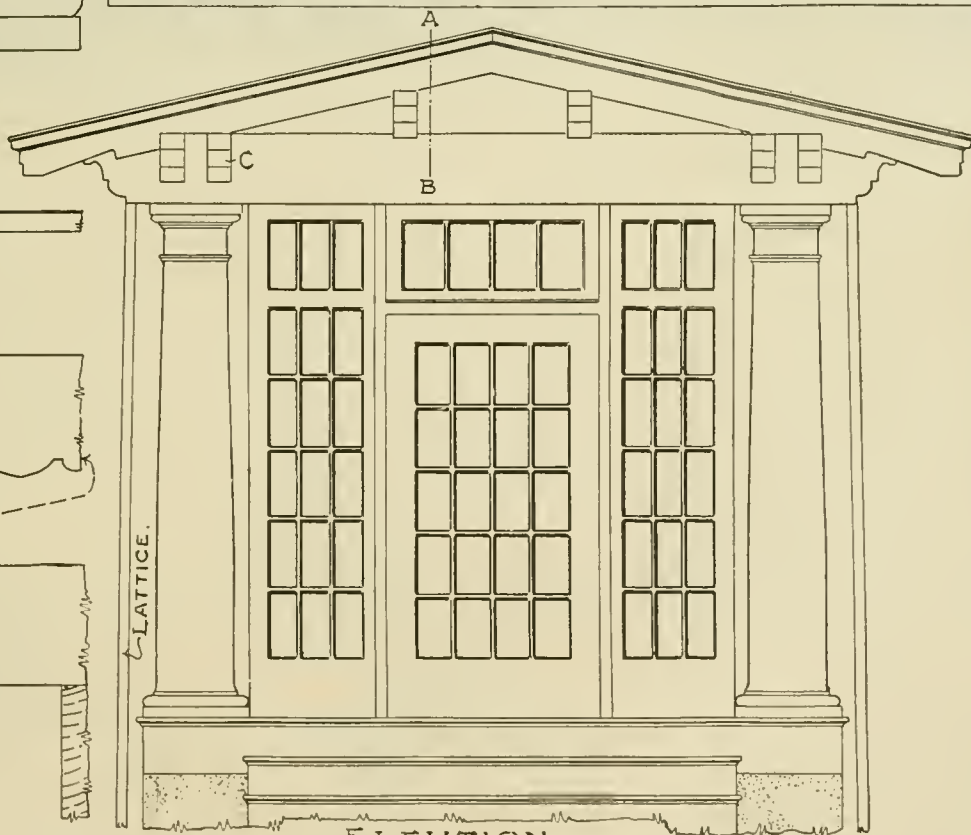
COLUMN



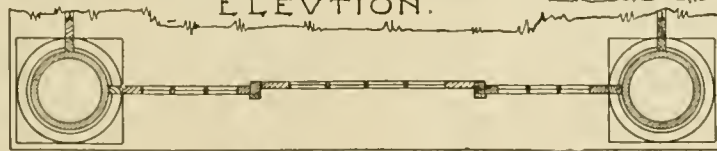
SECTION THROUGH A.B.



SECTION THROUGH DOOR JAMB.



ELEVATION.



PLAN.

Photo and Working Drawings of Well Designed Glazed or Screened Porch.



A splendid Country or Village Home of seven rooms, with all necessary modern improvements. Size is 34 by 36 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6620 H.

Splendid Country Home

Design No. 6620 would look well in the country as a suburban home or in the residence section of a good village. An inside wide lot in the city might be selected, but a big corner lot would display it to better advantage.

There are two great gables. Gables offer splendid opportunities to vary architectural details; but variations are not always so ornate as the treatment of these gables. The deeper recess of the lower part of the pediment produces a sort of New England renaissance that harks back to the blending of old world ideas with the freedom of American pioneer practice, the practical feature of the combination being storm protection.

Extending the roof to cover the large front veranda is economical as compared with building a separate roof. Large square front pillars like these are massive enough not only to support such a roof, but to convey the impression of solidity.

Square treatment of porches, verandas, and loggias is noticed in every part of the United States. It generally leads to the solid base, and the doing away in great measure with open rail and baluster work.

The fashion was brought about by the modern veranda parlor idea, whereby rattan tables, chairs and swinging seats are used in connection with grass matting to furnish outdoor rooms.

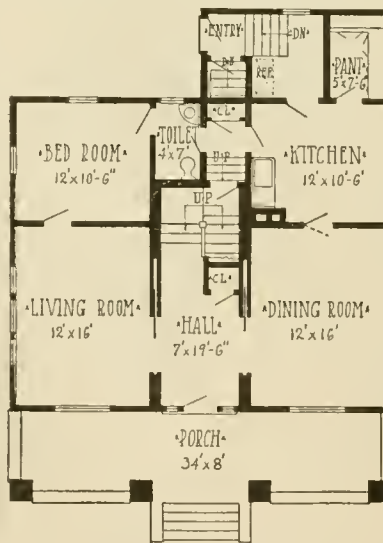
The introduction of good furniture as a porch parlor proposition demanded more protection than the old-fashioned narrow verandas afforded. So the square opening idea was launched be-

cause these openings could be easily fitted with screens and with glazed sash.

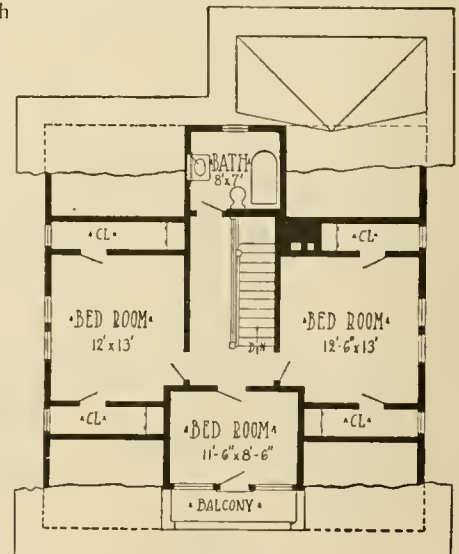
In this design the architect has planned four rooms downstairs and three rooms on the second floor under the high part of the roof. The elevation of the peak is sufficient to make head room for good sized bed rooms; but a dormer in front is necessary to arrange for the third bedroom and a similar dormer at the back gives head room for a comfortable bathroom. In this design a combination stairway is partitioned in with

a door on the central landing which shuts off the kitchen steps from the front approach. This door is supposed to remain closed; but in practice it is appreciated as a rather superior ventilator.

A good feature of this design is the grade entrance at the back which is convenient for cellar and ice box. It is appreciated by good housekeepers who like to keep the ice-man and vegetable man out of the kitchen.



First Floor.



Second Floor.

Arrangement of House, Size 34 by 36 Feet.



Ten-Room Farm House. Size, 36 feet 6 inches by 26 feet 6 inches. We can furnish complete blue-printed working plans and typewritten specifications for only \$12.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6627 H.

This house combines the farm home with the dairy, laundry, cold storage, and a general workshop in the cellar.

The stairway in this house is different from most houses from the fact that it is built double, really a combination of front stair and back stair, but each one is kept separate. The reason is to provide a separate stairway for the three bedrooms on the second floor that are intended for use of the men at work on the farm.

Upstairs, besides these three bedrooms are three other bedrooms for the use of the family. A separate stairway leads up from the living room to these family

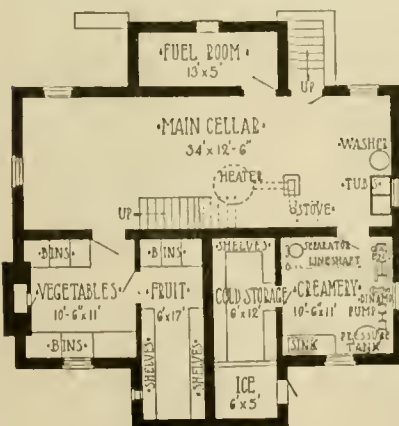
sleeping rooms. The upstairs is in this way made into two separate apartments, with or without a doorway connecting them, according to the ideas of the farm housekeeper.

In outside appearance, this house looks larger than it really is. The size on the ground is 36 feet 6 inches by 26 feet 6 inches, exclusive of the front porch. Making two story porches of both front and rear porches makes the six bedrooms upstairs and a double stairway possible.

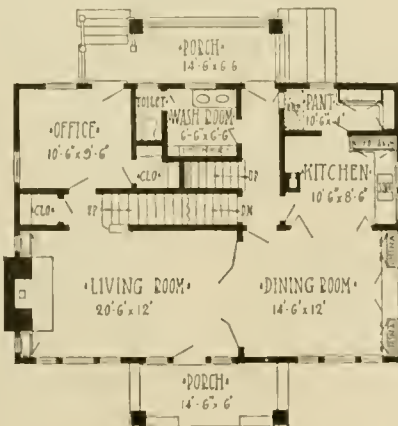
Farmers who make a business of farming extensively need a house that will accommodate business as well as

living quarters. They also want a house that will expand on occasion; for there are times when extra help is necessary, and there are other times when the family may be almost alone. It depends a good deal on the nature of the business.

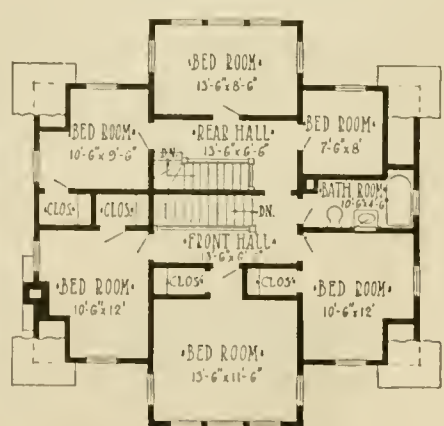
This house is designed for a dairy farm, where one or two men are needed the year round. In summer time, two or three men are required a few days or a few weeks at a time. In order to get the right kind of help, it is necessary to have comfortable places for them to sleep. The privacy for the family provided in this house will be appreciated.



Basement Plan.

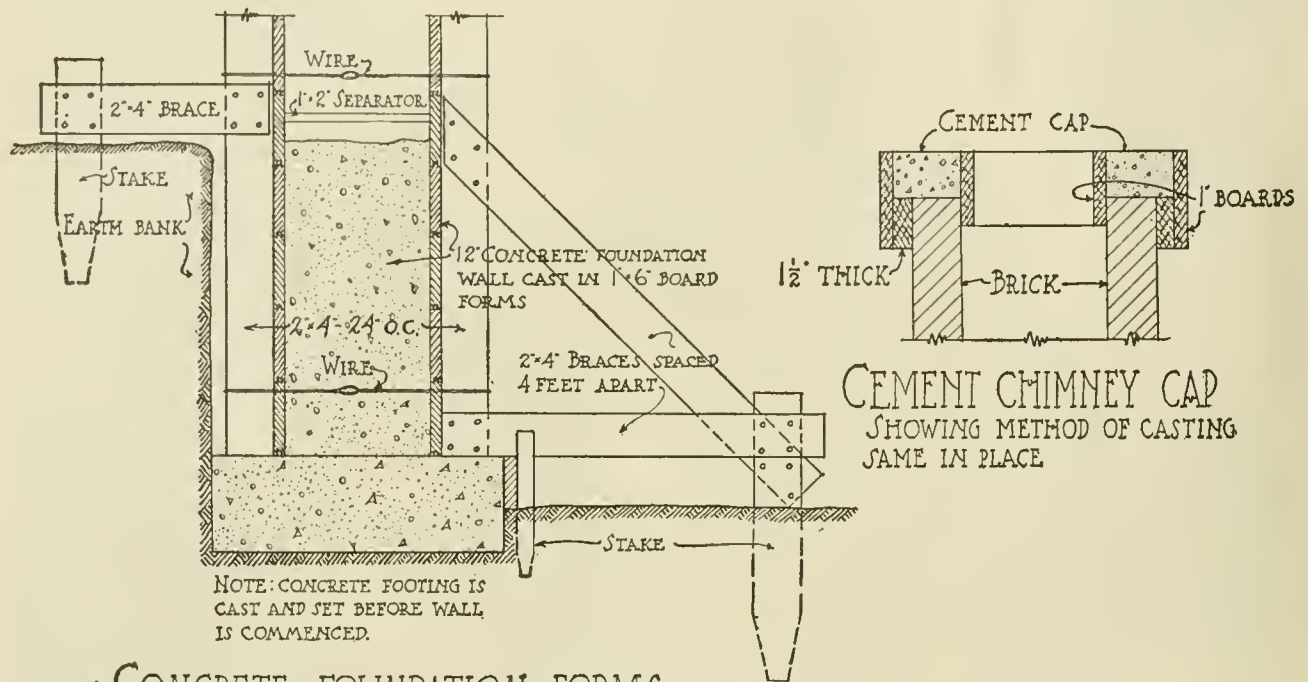


First Floor Plan.

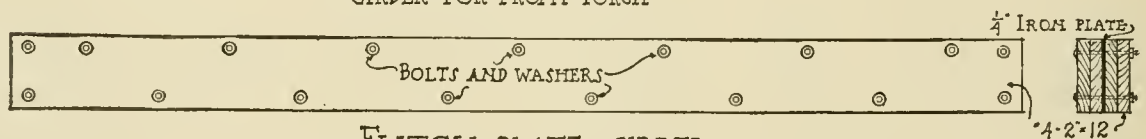
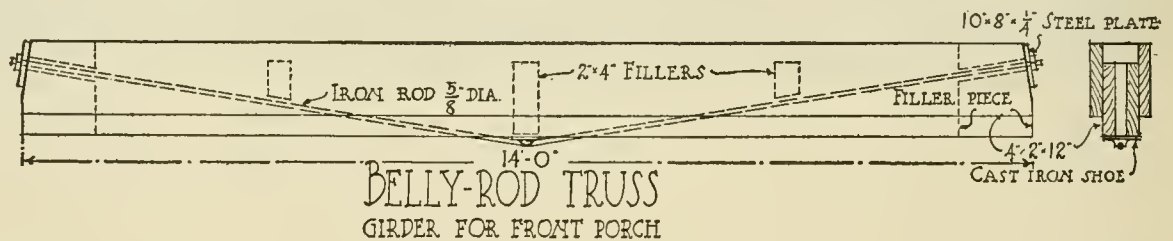


Second Floor Plan.

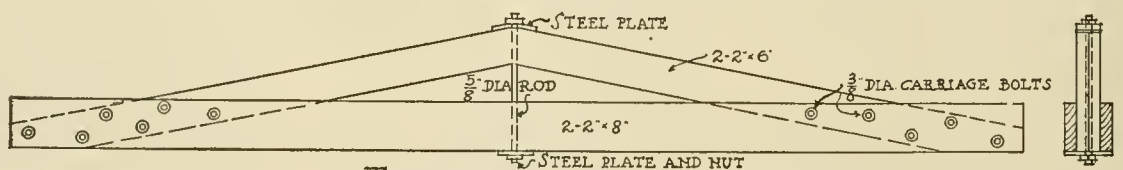
Arrangement of Prize Farm House. Size, 36 feet 6 inches by 26 feet 6 inches.



CONCRETE FOUNDATION FORMS
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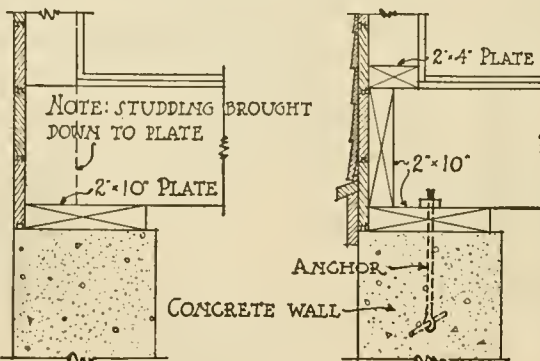
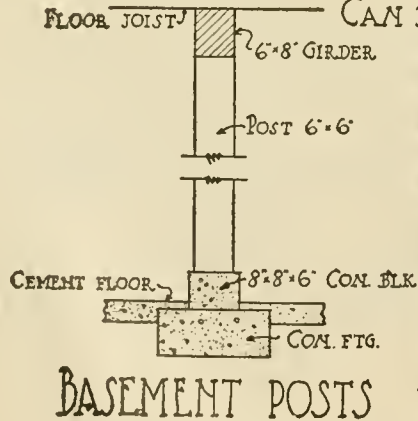


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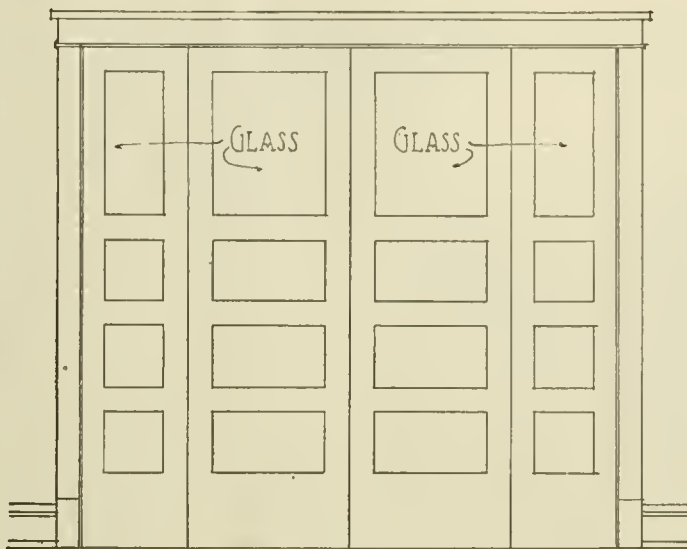


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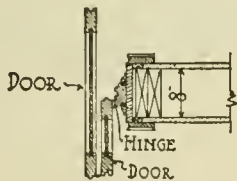
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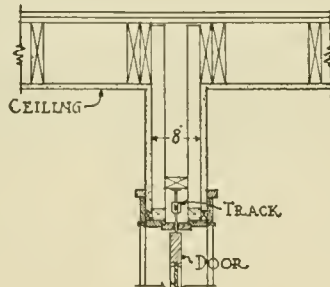
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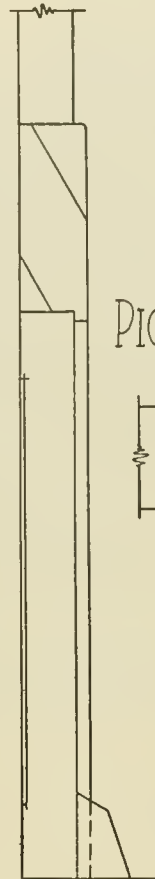
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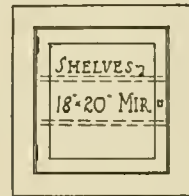
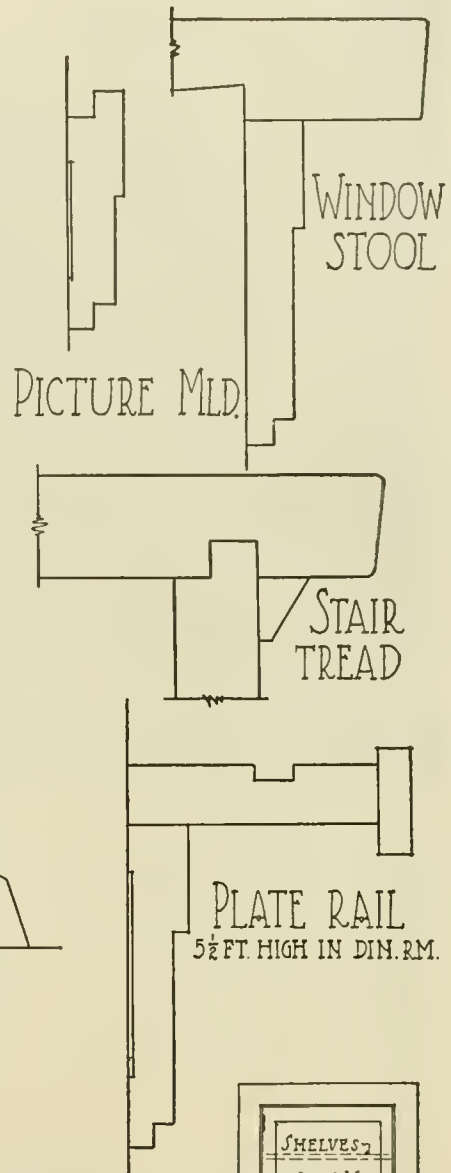
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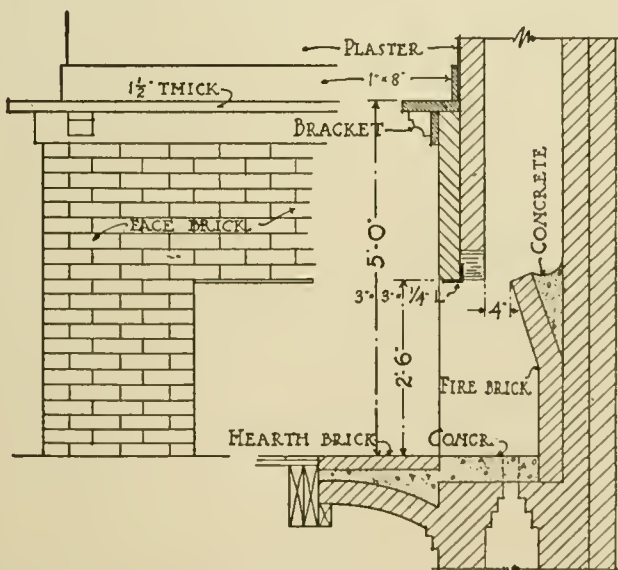
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TRACK CONSTRUCTION



BASE

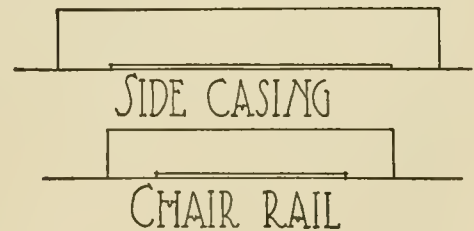


MEDICINE CASE



HALF ELEVATION & SECTION
• SCALE $\frac{3}{8}$ " = 1'-0"

HEAD CASING



• SHEET OF •
• INTERIOR DETAILS •
• SCALE $\frac{3}{8}$ " = 1' & $\frac{1}{2}$ " FULL SIZE •



Splendid five-room bungalow, 29 by 39 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; floor plan; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6624 H.

Interesting Five-Room Bungalow

Judging from the number of five-room bungalows, this size must be more popular than any other. The reason undoubtedly is that most families require two bedrooms so that the parlor, dining room and kitchen fill out the five rooms. It so happens that five rooms work out better on the same floor than six. The popularity of five-room bungalows seems to be on the increase.

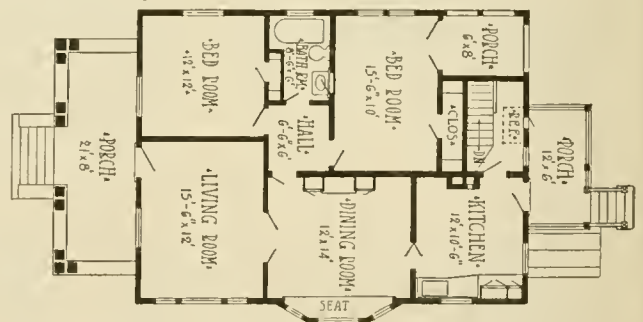
In this design we have an exterior that is extremely neat. It has a clean look as though cared for by intelligent, progressive people. The plan shows living rooms on one side and sleeping rooms on the other side which is the most approved bungalow arrangement.

Best Soil for Foundations

Two thousand years ago we are told that a house that is built upon a rock will outlast one that is built upon sand, and the fact is just as true today as it was then. But, strange as it may seem, one of the very things that modern builders tell us to avoid in selecting a site is rock. That is principally because of the great cost of excavating a cellar in rocky soil. Another objection to rocky soil is that water will not soak through rock, and so runs down it. Some of this water would be almost certain to seep through the cellar walls thus making the cellar damp, or it might undermine the foundations. Again rock

often contains springs. If a spring were opened during blasting it would mean either that the water would have to flow through the cellar or be deflected—a costly operation. A house built upon a rock also vibrates during thunder storms. Clay is perhaps more to be avoided than rock. Clay collects water and spreads under pressure. It expands in wet or frosty weather and contracts in summer. Frozen clay clings to brick or stone and often causes discoloration of cellar walls and piers. Also it is impervious to water. Thus an underground layer of clay will prevent the proper drainage of rain water and leave the soil foul and sodden. Finally, it is extremely costly to excavate.

buy vegetables in quantities and store them in a cold corner of the cellar. At such times an outside entrance is a great convenience. This same outside entrance is used during the winter to remove ashes from the furnace.



Arrangement of Bungalow, Size 29 by 39 Feet.

Undesirable for building purposes also are made land, sand and silt. Made land is not always stable.

Gravel is the ideal soil for building purposes. It is porous and drains perfectly. At the same time it is sufficiently stable to support foundations. A gravelly elevation is the ideal building site. Depressions or levels between rocks are likely to retain water, even though the depression is slight and the elevations distant. The ground water thus retained stands at a level. Small gravelly elevations form islands, as it were, in a subterranean lake, and upon them houses may be built with perfect safety. The cellar floor will be above the ground water level and no rain water will drain into the cellar.



Seven-Room Concrete Block House of Medium Cost. We can furnish complete set of blue-printed working plans and typewritten specifications, for only \$8.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and two side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6592 H.

Well-Arranged, Seven-Room Concrete Block Cottage

For convenient arrangement of rooms and wise use of space, it would be hard to beat the design here shown for a cement house of medium cost. Up to the second floor, the construction, including wide front porch, is of cement blocks; above that, of cement stucco relieved with an attractive half-timber effect. A most pleasing effect can be obtained by appropriate color staining of the wood trim and timber work.

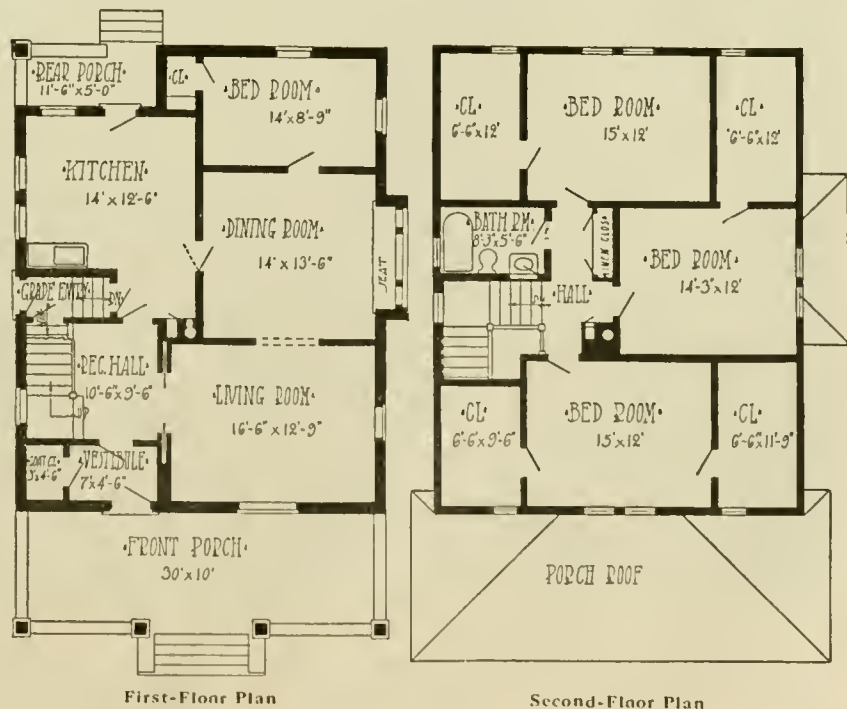
But it is in its interior arrangement that this house design makes perhaps its strongest appeal. Reception hall is entered from front porch, through a vestibule, with convenient coat closet. On the right, sliding doors open into large front living room, back of which, through eased opening, is a commodious dining room, with bay window and seat; and back of this, a well-lighted bedroom, with closet. Kitchen connects directly with reception hall, and also, through swinging door, with dining room. It may also be entered from large rear porch, or by ascending a few steps from landing at side grade entrance, whence also steps descend to basement.

Upstairs, a central hall (with linen closet and laundry chute), reached by stairs from reception hall, opens directly

into front, side, and rear bedrooms, and into bathroom. All bedrooms have ample closet accommodation, the large front bedroom, in particular, being provided with a commodious closet at each

end. Each upstairs closet has window light.

Houses of this type of construction are economical and durable, warm in winter and cool in summer.



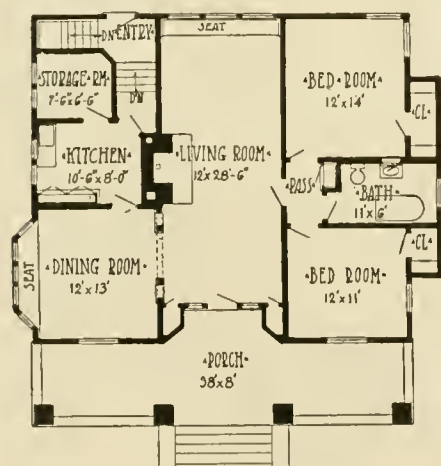
Seven-Room Concrete Block House, Size 30 by 38 Feet, Exclusive of Porches.



A low cost, popular style bungalow, comprising some very interesting features. Size, 41 by 33 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6612 H.

Bungalow with Central Living Room

A plain little bungalow from outward appearance develops into a modern, up-



Floor Plan of Bungalow
Size 41 by 33 feet

to-date house of five rooms when you open the front door. An interesting feature of this plan is the 12 by 28 foot living room. It is built like a hallway through the center of the house. This splendid room is lighted principally from the rear, as the whole end of the room is practically one big window.

The front entrance being recessed, adds to the attractiveness of the front, besides giving two convenient closets for coats, umbrellas, etc. The blank partitions in this room provide for placing

large articles of furniture to the best advantage.

Living rooms and bed rooms are separated in this bungalow as effectively as houses having up and downstairs, an arrangement that will appeal to every housewife. One chimney, with three flues, almost in the center of the house, furnishes smoke accommodation for three fires—the kitchen range, basement furnace and grate.

How to Keep Tools From Rusting

Take two ounces of tallow and an ounce of resin; melt together and strain, while hot, to remove the specks which are in the resin. Apply a slight coat on the tools with a brush and it will keep off the rust for any length of time.

There is no absolute need of painting zinc work, for exposing it to the atmosphere has the effect of coating it with a thin film of oxide, which protects it as effectually as paint.

Getting business is just like courting a girl. You must offer the right kind of goods and keep right on calling.

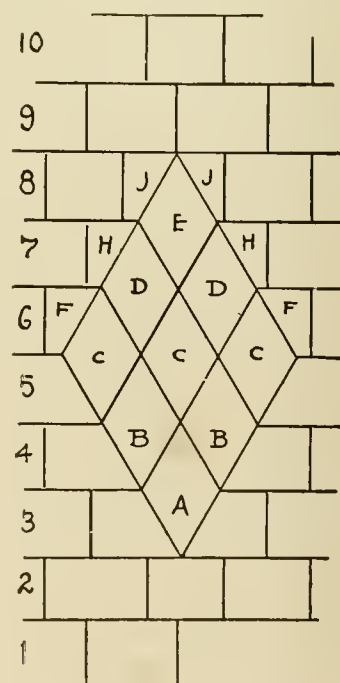
Opportunity is the only knocker that can't draw a crowd.

An automobile does not prove that a man has money, but that he did have.

How to Lay a Shingled Diamond

The accompanying sketch shows how to lay a shingled diamond. The method of doing this is as follows: In shingling a gable use ordinary dimension shingles up to the point where you wish

to start the diamond. Then in the next course, which is numbered "4" on the drawing, put in one pointed shingle "A," which comes down over the shingles in course "3." Then in laying course "5" put in two pointed shingles, "B," which come down over the shingles in course "4." In course "6" lay the three pointed shingles, "C," which come



down over course "5" and then lay the shingles, "F," sawed with one beveled side overlapping the two outside shingles, "C." Continue courses "7" and "8" in the same manner, and run the balance of the work through in the regular way.

Good House for Narrow Lot

A well designed six-room cement plastered residence which is only twenty-

two feet in extreme width is offered here. A large living room extends clear across the front and an ell projection

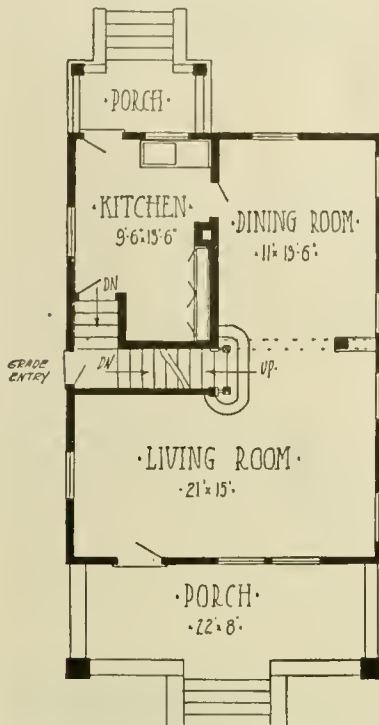
extending back at the right hand forms the dining room. The stairway goes up just where these two rooms join. The first three steps are out in the room and the rest of the way up it is a closed stairway.

The kitchen occupies the third corner; and in place of having a pantry, a large, built-in cupboard is provided. The cellar stairway goes down from the kitchen, past a grade entrance.

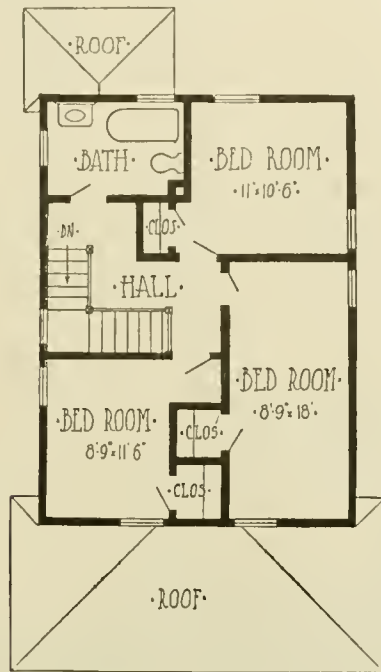
On the second floor are three bedrooms, three clothes closets and the bathroom. This last is directly over the kitchen, which keeps all the plumbing pipes in line and holds down this part of the expense.

This is an up-to-date, modish looking place, finished in rough cast cement plaster and ornamented with exposed panel strips.

Some folks have the idea that a cement plaster house can have only one color—the natural gray of the cement. This is a wrong notion, however. There are special cement surface paints in all colors; and by planning some good contrast between the stucco areas and the wood trim, some very striking and beautiful effects are produced. Yellow and brown, cream and olive green, drab and maroon, etc., work out well.



First Floor Plan



Second Floor Plan

Arrangement of Six-Room Stucco House, Size 22 by 30 Feet



Six-room, stucco residence for a narrow lot. Size, 22 by 30 feet. Up-to-date design. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering ask for Design No. 6552 H.

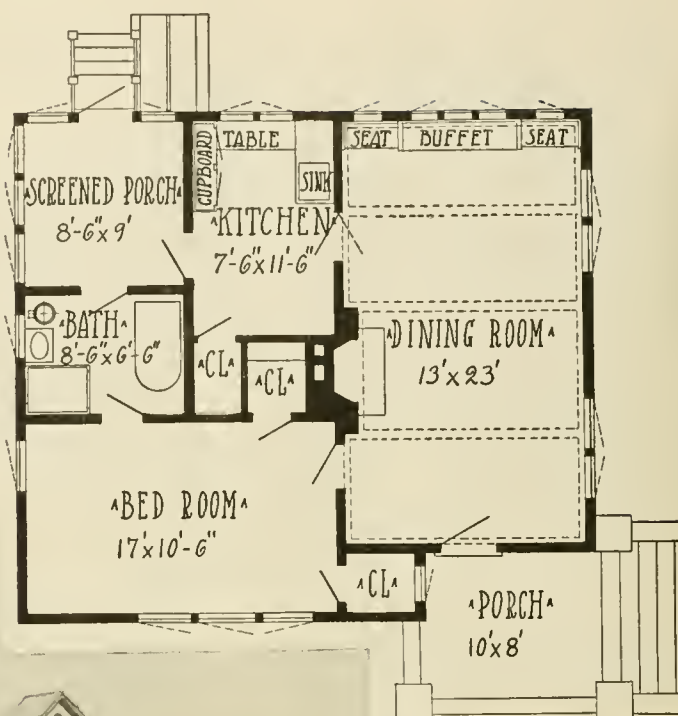
Three-Room Honeymoon Cottage

A dandy little home is represented in this design. It contains everything necessary for comfort for a small family, together with facilities for entertaining guests in the evening or afternoon.

A splendid feature about this design is the large combined dining room and living room, 13 feet by 23 feet, with plenty of windows and a very attractive fire place. A room like this is appreciated in any house.

The kitchen, 7 feet 6 inches by 11 feet 6 inches, with a table in front of the window and a good cupboard opposite the sink, makes an easy kitchen to work in for the housewife. Another feature is the screened porch, which is also intended as an outdoor dining room.

Mr. and Mrs. Newlywed could not find a more pleasant home in which to spend the first years of their wedded life.



Three-room stucco bungalow. Size 31 feet 6 inches by 28 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; floor plan; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6610 H.

How to Hide Pine Knots

There are several plans for hiding pine knots and sap so that they will not show under the paint. The old stand-by is shellac varnish, made thin, but this will not always do the trick, at least, not when wood alcohol is the solvent. If it is a fine job, silver or even gold leaf should be used. No, that is not expensive; a few cents would do many knots. Shellac will sometimes cause the paint to peel off, outdoors, and will not always keep the pitch from striking through. Some use and highly endorse red lead and glue knotting, others use red lead and gold size, with a drop of boiled oil added. The trouble with glue size is that one must keep it hot or it will not work.

Strength of Pine Beams

A 6 by 14-inch long-leaf yellow pine timber 24 feet in length will carry about 5500 pounds of uniformly distributed weight with a factor of safety of six. This same size timber in short-leaf yellow pine will only carry about 4600 pounds of uniformly distributed load with same factor of safety.

A 6 by 12-inch long-leaf yellow pine timber 24 feet in length will carry about 4000 pounds of uniformly distributed load with a factor of safety of six. The same timber in short-leaf yellow pine will carry about 3300 pounds.

It should be noted that the timbers referred to above are too long for use where the allowable deflection is limited

to 1/360 of the span, such as is common where plastered ceilings are to be used on the underside of the timbers.

How to Anneal Copper and Brass

To anneal brass or copper, heat it to a red heat and cool it suddenly in cold water, copper being annealed in the same way that steel is hardened. Copper which has been annealed in this way will be very soft, much like lead. After brass or copper are hammered, they will harden and become springy, so we find when working brass or copper, where much bending or hammering is done, that the metal requires annealing frequently.

Six-Room Bungalow with Special Features

Occasionally one sees a first rate bungalow plan that requires a building lot of only moderate width. Such a design is by far the most practical; for in the majority of places ground comes so high that the prospective home builder has to be satisfied with, at the most, about 50 feet.

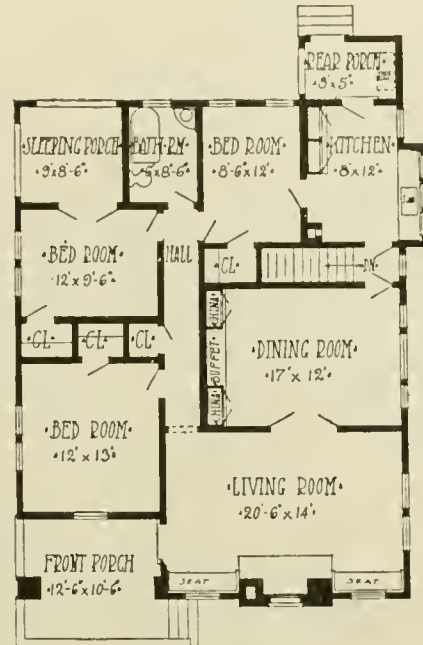
Here is a very well arranged bungalow measuring 34 feet in width by 43 feet 6 inches along the depth of the lot. The rooms are of good size, too,—the living room measuring 20 feet 6 inches across the width and extending back 14 feet.

The arrangement of rooms in this bungalow has been worked out just about as well as is possible. The three problems of planning where *all rooms are on one floor* are satisfactorily handled. They are first, that the sleeping rooms should be quiet and private; that is, separated from the rest of the house and accessible without having to pass through the general living room or other important room in order to get to them. Second, the kitchen and maid's room should be away by themselves. And third, the living room-dining room combination must be large, well-lighted, commodious apartments and should be placed on the sunny side of the building.

It is no easy task to plan out a dwell-

ing of moderate size and cost and take care of all three of these factors in good shape.

This present design seems an unusually happy solution of the problem. Notice how the two principle bed rooms are placed with reference to the bath room, living room, clothes closet space, etc. The rear bed room even has a



Floor Plan of Bungalow
Size 34 by 43 feet 6 inches.

large sleeping porch in connection with it. Notice, too, the placing of the kitchen. It is a sunny, cheerful work room, convenient to the dining room, yet separated from it by two doors and the cellar stairway hall, which keep the kitchen clatter and cooking smells from the rest of the house.

Double doors, glazed their full length, are used to shut off the dining room from the front room, when desired. The living room has a big open fireplace with built-in seat at each side. The fireplace chimney comes out in the front wall and makes one of the striking features of the outside appearance of this bungalow. This chimney is laid up in dark brown, rough face brick. Quite a novelty is the small square window that pierces the chimney breast just above the fireplace mantel.

The outside of this bungalow is covered with wide boards from grade up to the window sills. From there up narrow siding is used.

The exterior design is simple, and yet very attractive. It is a design that lends itself well to landscape gardening attention—a few shrubs and vines, a border of bright flowers along the walk, some well-kept sod.

It is easy to care for some houses—they seem to invite attention by their own attractive neatness. This little home place is of that sort. It is orderly.



Cozy six-room bungalow of artistic design. Size, 34 feet by 43 feet 6 inches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6565 H.



Bungalow design containing 8 rooms. Size 31 by 37 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6625 H.

Eight-Room Bungalow

Bungalows originally were covered with low roofs having very little pitch, but the demand for more room and still retain the pretty bungalow effect has led to the style of roof shown in this design.

To get sufficient head room upstairs the stair lands almost directly under the peak. This arrangement also brings the landing near the center, where the entrance doors to the upper rooms are most convenient. The building of the stair in this manner also gives easy access to the cellar from the center of the house. The two bedrooms to the left of the hall are entirely separate from the living rooms, while both are conveniently situated as regards bathroom facilities.

In this plan the kitchen is built in the form of an extension or L, but the main roof extends as far as the hip, then drops down to cover the rear porch. This manner of extending the roof does double duty in a way.

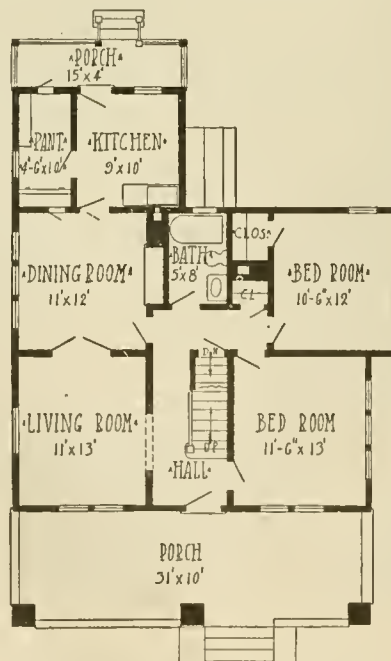
The plan of extending the kitchen permits the laying out of the other rooms to advantage, at the same time it provides a splendid, light, airy kitchen with a superior pantry. This jog in the build-

ing also makes room for a splendid bathroom having a large outside window in the rear.

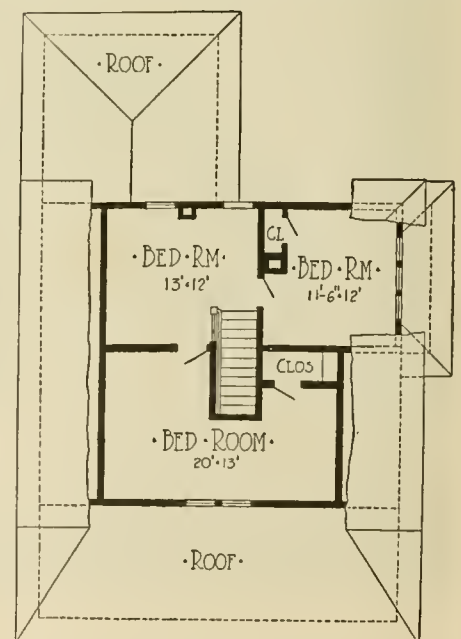
The one front gable and the two dormers provide space for mullion win-

dows to light the upstairs rooms.

A house 31 by 37 feet, arranged in this way, provides comfortable living quarters for a good sized family at very moderate cost.



First Floor.



Second Floor.

Arrangement of House, Size 31 by 37 Feet.

Low-Roof Japanese Bungalow

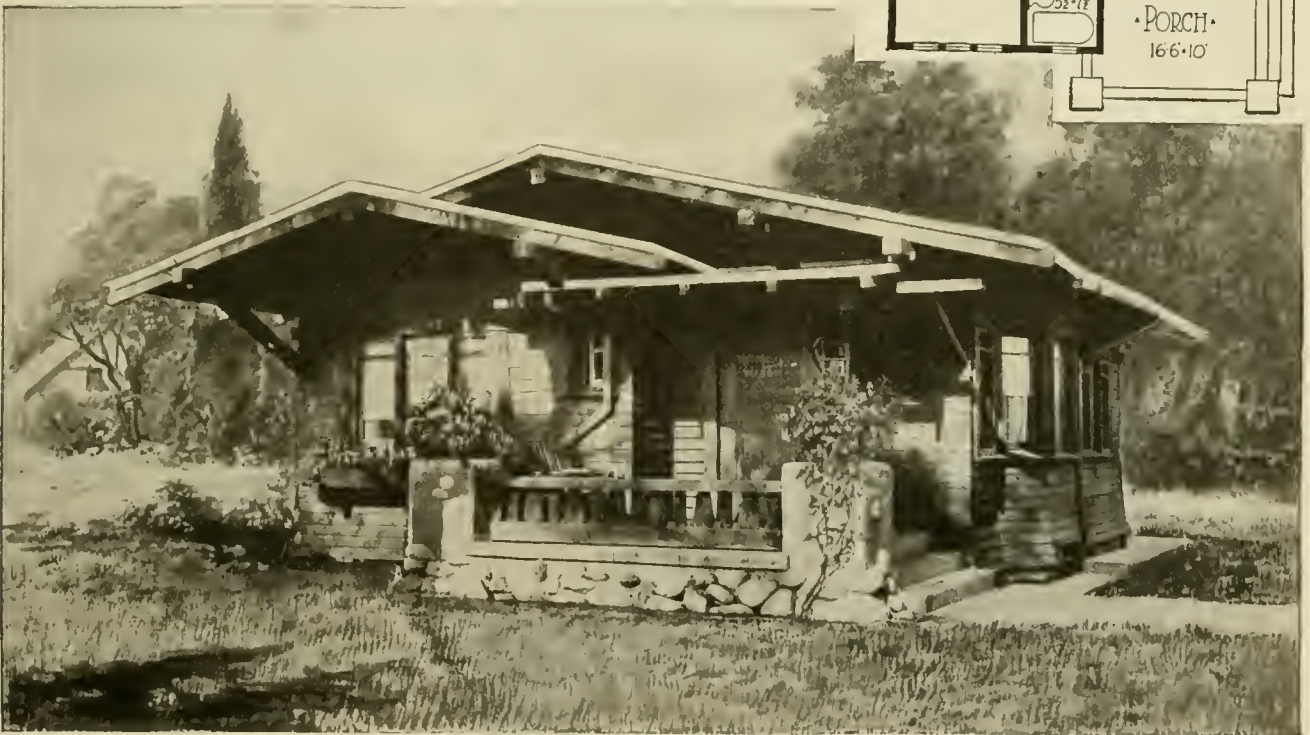
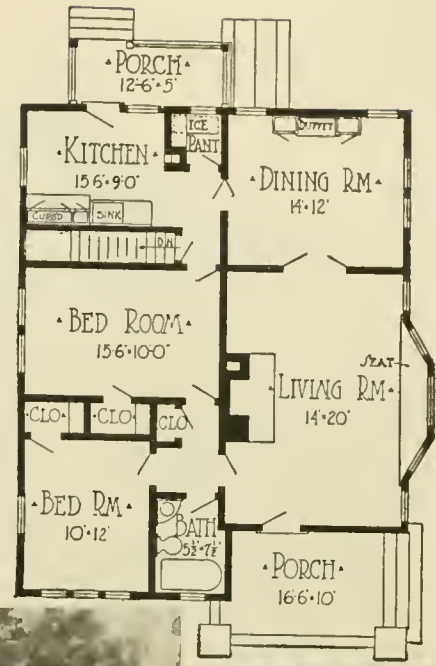
A perfect bungalow of true far western atmosphere is shown in Design 6634. It is 31 feet wide and 39 feet in depth, exclusive of the porch projections. There are two bedrooms, a dining room, a kitchen and a fine living room, 14 by 20 feet, with a bay window seat and a very attractive fireplace. About three-fourths of the space has been worked into living rooms, and what might be called the business portion of the house. This brief description conveys the idea at once that utility and comfort have been combined, together with a very artistic appearance.

The flat, bracket-supported roof, with its extra wide projection of cornice and

the color scheme account for the attractive outside appearance.

The construction is of concrete, studding, clap boards, lath and plaster. A good concrete wall reaches above the ground sufficient for cellar windows. The sills and woodwork are started from this and built up in the usual way. The low bungalow effect is secured by terracing the front and by putting a step in the concrete sidewalk that passes around to the rear.

What appears to be a small front porch is really larger than it looks. The size is 10 by 16 feet, 6 inches, which gives room enough for porch furniture.



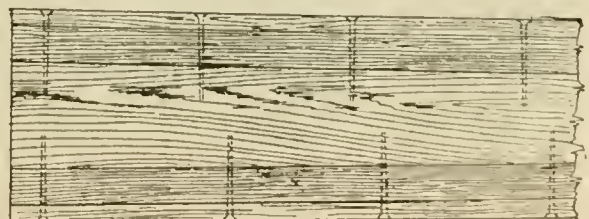
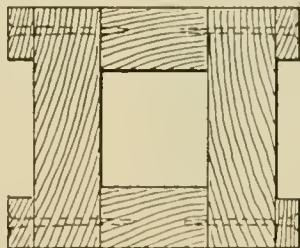
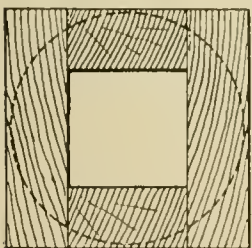
A beautiful five-room bungalow of Western flavor. Size 31 by 39 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; roof plan; main floor plan; front, rear, two side elevations, and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6634 H.

How to Construct Columns

In the course of a builder's work he often makes columns for interior and exterior; the exterior columns are usually staved, but for columns

with 10-inch diameter, or under, he boxes them up. Now, this takes a number of hand screws and if there are many columns to make, he runs short of screws, so here is my emergency method.

First, joint the sides of the required size and shape; glue together, then nail strips, or waste edgings along the sides near the edge of the wide sides, using big-headed nails. The heads pull the joints together. Then after good and dry, rip off the strips and pull out the nails.



Box Column Before Turning;—Screw Substitute.

FLATS *and* CITY RESIDENCES

Plans of Tested Popularity

FOR investment purposes there is no residence building quite equal to the modern city flat or apartment building. Home builders are putting up two-flat buildings at \$4,500 and up, borrowing about three-fourths of the capital required, and giving the finished building as security. They live in one flat and rent the other, and so have a good income which helps them to carry the interest charges on the building. In a few years, by making just a little more than ordinary rent payments, they find themselves in possession of a valuable piece of property.

The success of such a building and financing project depends upon the location and also on the design of the building.

It pays to build in an attractive, clean-cut way. Nothing to get dilapidated should be included in the design. Plenty of light, fresh air, and that intangible something known as "style," are essential things.

A model two-flat building is illustrated on this page. It has a five-room apartment on the first floor, while on the upper floor there are six rooms. The construction calls for brown pressed brick with cut stone trimmings. Interior trim is birch, finished in mahogany.

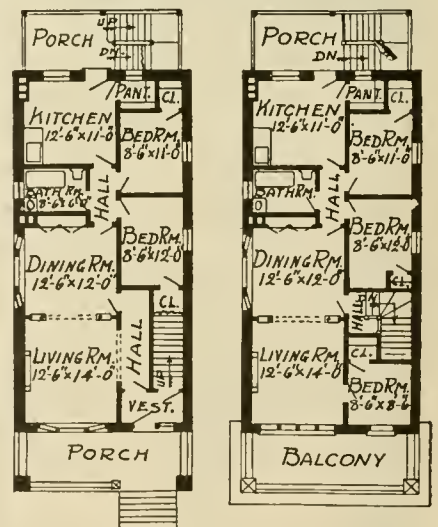
The outside dimensions of this

building are 24 by 48 feet. It can be built complete for \$4,500. A house built after this design will look well, and be an income producer in any community.

The designing of flat buildings has developed into an exact science. Certain arrangements have been worked out that have proved themselves to be the best, giving the most room and the most convenience for each size of building. In this design the living room and the dining room are at the front, separated only by attractive broad colonnade. Light comes from the three windows in the front wall, and from the three window group looking out at the side from the dining room. Even though the adjacent property is built up close, there is good light in this dining room.

By the arrangement illustrated the inside hall is reduced to its smallest terms. It is just long enough to let in the two bedroom doors along one side. Across the hall is the bath room. The kitchen is at the rear. The pantry has outside light and air, and each bedroom has its clothes closet.

On the second floor an extra bedroom is worked in off the living room, occupying the space used by the vestibule below.



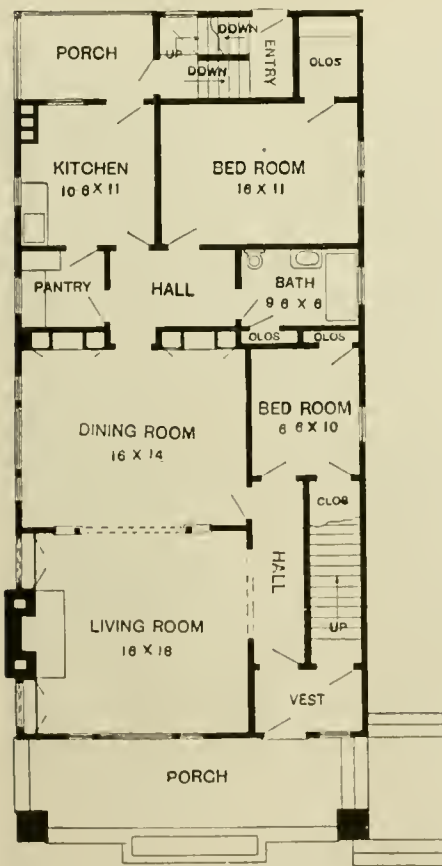
First Floor

Second Floor

A two-flat building of popular design. First apartment contains 5 rooms, second apartment 6 rooms. We can furnish complete set of blue-prints and typewritten specifications for \$15.00. Ask for Design No. 4044 H.



Double house or two-flat building containing a 5-room apartment downstairs and 6-room apartment upstairs. An attractive design in cement plaster ornamented with wood bands. We can furnish complete set of blue-prints and typewritten specifications for \$15. Ask for Design No. 4031 H.



First Floor Plan.

It is designed like any fine residence. The stairways at the back are enclosed, and both apartments use the front stairway and entrance in common.

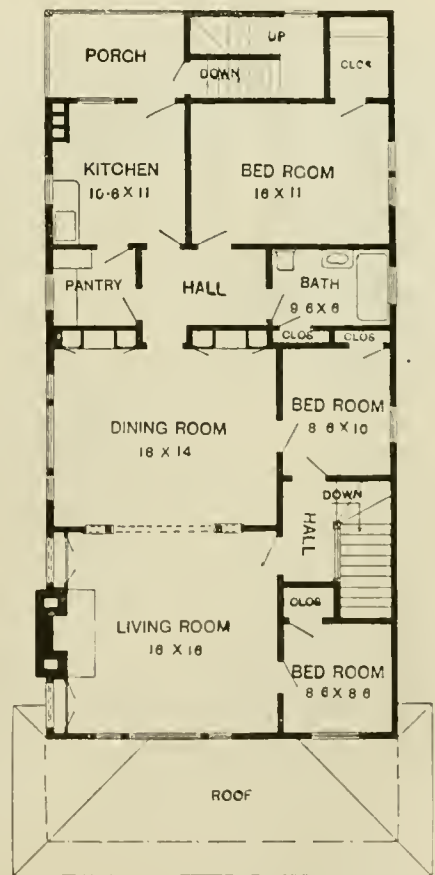
This building is of frame construction covered with cement plaster and trimmed with rough boards. The first floor contains a large living room, dining room, kitchen, two bedrooms, pantry, bath, hall and clothes closets. The second floor contains the same number of living rooms but has an extra bedroom opening from the main living room.

There are large colonial fire places in the living rooms; combination buffet and china closets on either side of the opening at the rear of the dining rooms.

In outside dimensions this building measures 28 feet by 58 feet 6 inches.

For a really permanent investment, some would want to put up a building like this in fire proof or fire resisting construction. It is a design well suited for poured concrete walls. One system lays up the double concrete wall with air space on the inside, at practically the same expense as for frame construction. In fact, there are instances of an actual saving in cost using this hollow wall machine.

With fire proof walls and a roof of slate or asbestos shingles, this design would make an elegant property.



Second Floor Plan.

Two Family Flat Building Designed Along Residence Lines

ONE would not know from the outside that the building illustrated on this page contains two apartments.

This building is especially adapted for the suburbs, as it requires a lot at least 40 ft. wide. This will give plenty of light and air to all rooms.



Six-Flat Building of Modern Design. Size 83 by 46 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$12.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections; and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6704 H.

Six-Family House

A substantial brick building having three five-room apartments on the first floor and three six-room apartments on the second is shown in this design. It is of the well known Philadelphia type, and gives the appearance of quiet elegance. Its plain, simple lines and heavy construction add to the impression it gives of being dependable and comfortable. Such a building is ideal as a real estate proposition.

The flats on the ground floor have a small vestibule that opens into a large living room. There is a cased opening from this room to the dining

room. The kitchen is behind the dining room and there are two bedrooms; one opposite the dining room, and one opposite the kitchen. The bathroom is located between the two bedrooms, which is the best arrangement possible.

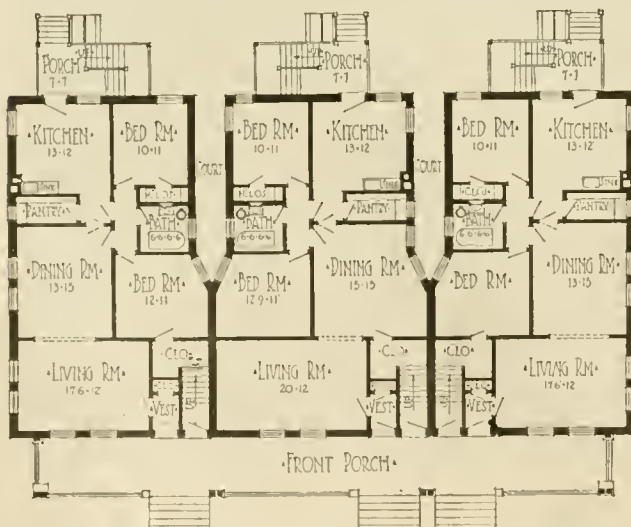
In the second story, the arrangement is much the same, except that another room is added by using for a bedroom the space that was occupied downstairs for the vestibule and the entrance to the upper flat. This makes the living room slightly smaller but it is still a good sized room. The rest of the arrangement is much the same—with two bedrooms, a dining

room, and a kitchen.

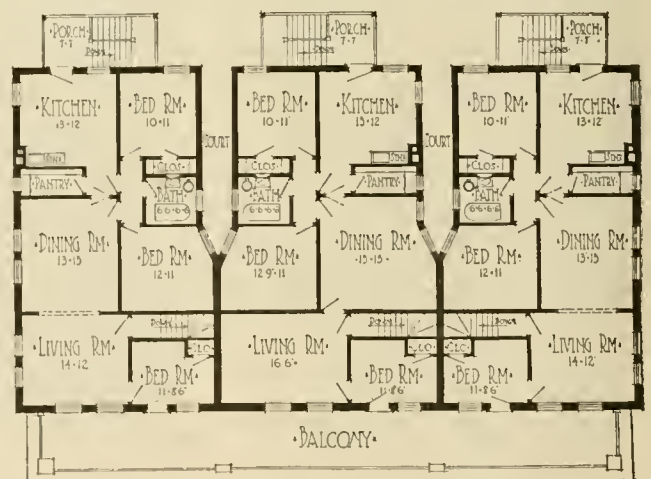
All the flats on both the first and second floors are well lighted. There are many windows on all the outside walls, as can be seen from the illustration. The lighting of the inside rooms is taken care of by two courts, which are cut into the building from the rear. These extend from the back of the building about half way to the front.

The porch and balcony have a very stately appearance from the outside and are arranged with the idea of being roomy and convenient.

The exterior finish is of face brick with white stone or terra cotta trim.



First Floor Contains Three 5-Room Apartments.



Second Floor Contains Three 6-Room Apartments.

Attractive Two Flat House

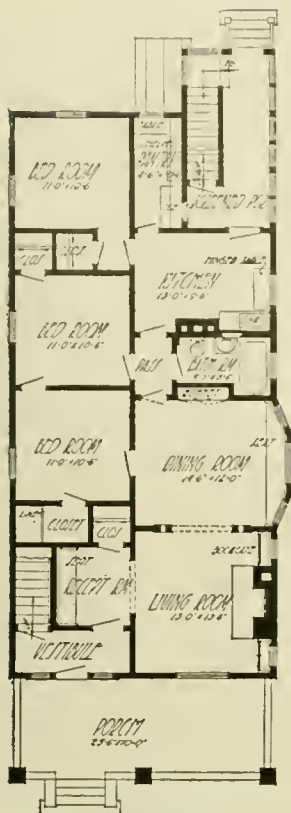
The exterior finish is cement plaster and is very cleverly designed to appear like any high grade private residence.

The first floor provides six rooms and the second floor seven rooms. The rear stairways are enclosed, and the space under the roof is given over to storage, half of the space being at the disposal of each of the two apartments.

Special features of this building include ice-box placed in pantry, with icing door opening onto the porch so that the iceman doesn't need to track inside. Clothes chates extend from the kitchen down to laundry in the basement.

In general dimensions this building measures 25 by 50 feet.

The cost of construction varies greatly, depending on labor prices and local material markets. In some cities this building might run considerably more. Also with a structure of this kind many would prefer to build of brick or tile. This could be done very easily, though of course the expense would be more.



First Floor Plan.



Second Floor Plan.



A two-flat house of attractive design, built with cement plaster. Contains a 6-room apartment on the first floor and 7 rooms upstairs, besides desirable storage space in the attic. We can furnish complete set of blue-prints and typewritten specifications for \$15. Ask for Design No. 6536 H.

Store with Living Rooms Above

FOR a business street the design on this page will prove its worth. This is a brick building with stone trimmings. The entire lower floor is devoted to store room purposes, with one large show window in the center. Entrance to the store is located at one side, and to the second floor, at opposite side. There is also an entrance from the store to the hall leading upstairs.

The basement is planned for full

building should ever be considered which does not contain this all-glass feature well worked out.

In this design a single sheet of plate glass extends clear across the front. The store entrance runs in at an angle, which makes an easy store to get into and also increases the amount of outside glass display.

The three panels across the top are prism glass which refracts the sunlight back into the store. This glass increases the light inside about 30 per cent.

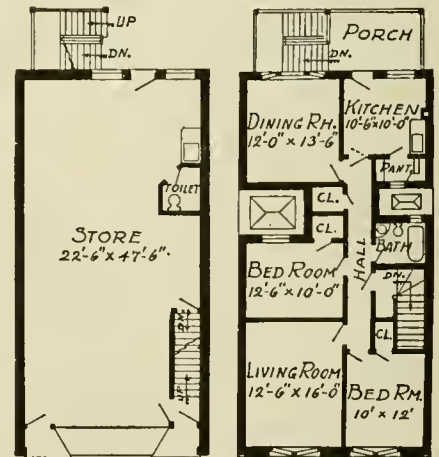
live within are not by any means tubercular.

A sleeping porch is a provision for sleeping outdoors in summer at least, and not a few open-air devotees cling to their outdoor sleeping quarters throughout the twelve months; from January to December.

Use a Dormer

The simplest method of constructing a real sleeping porch in a new house of modest proportions is to construct a generous dormer in the roof on the sheltered side, leaving it entirely open at the front except to a point about 2 feet above the floor, to which height it should be boarded up. In this way a room of adequate size is formed, without drafts, and requiring only a curtain in front to secure privacy.

A good plan is to shingle the roof and sides and to lay a heavy grade of prepared canvas on the floor. This roofing and deck canvas is waterproof, so strong that it may be walked on freely, comes in width of 30 and 36 inches, is lapped an inch and a half when it is put down, and it is fastened with tacks not more than an inch apart. It is best to give it a coat of paint at once and to keep it painted at intervals throughout



Main Floor

Second Floor

Neat store building with living rooms above. The front is ornamented with stock terra cotta work. We can furnish complete set of blue-prints and typewritten specifications for \$15.00. Ask for Design No. 4009 H.

height, and has entrance from the store room.

The second floor is a well arranged five-room apartment, consisting of living room, dining room, kitchen, two bedrooms, bath, pantry, closets, etc. There is a large back porch.

The outside dimensions of this building are 25 by 50 feet.

Nothing helps a store building so much as a modern all-glass front. The store window is the merchant's best advertising medium, and no store

Of Course, Have a Sleeping Porch

Healthful and Pleasant Porches Can Be Built Into Dormer Windows

"OF course you will have a sleeping porch."

That is a remark which one sometimes hears when mention of a new house is made.

The sleeping porch may be a fad, but it looks very much like a fixture. In some of the suburban communities there are houses specially designed to accommodate sleeping porches and those who

the year. Make provision for draining off water which will surely be driven in when hard storms come.

Couch hammocks seem to belong naturally to sleeping porches and are as convenient and comfortable for an after dinner siesta as for the nightly repose. It is important to have a thick and well made mattress, both for comfort and to keep the cold from penetrating. Little else in the way of furnishings is needed except perhaps a rug on the floor.

A Five-Room Lake-Side Cottage

To enjoy a summer outing, it is necessary to have a comfortable house to live in. Very few families are aboriginal enough to enjoy themselves any great length of time without most of the household comforts that they have been accustomed to from infancy.

Everybody expects a summer home to look different from a home in the city. One essential to comfort in a summer cottage is plenty of veranda space. When the weather is at all suitable, every member of an outing party likes to spend as much time in the open air as possible, but the glare of the sun is not very pleasant to those accustomed to being in the house most of the time during the balance of the year.

A veranda long enough to provide

space for easy chairs and hanging seats is a great comfort. Each member of the party should be provided with a lounging place on the veranda.

Of course the rooms in the house must be comfortable for stormy days and so arranged and furnished as to be inviting. It is rather a difficult proposition to arrange and furnish rooms in a satisfactory manner, because no one likes to spend much time indoors when off for a summer holiday.

This plan provides a splendid large living room which is a very good compromise between veranda for mild weather and a regular house for cold evenings. There are two bed rooms and a bath room on the second floor and plenty of housekeeping rooms on the first floor.

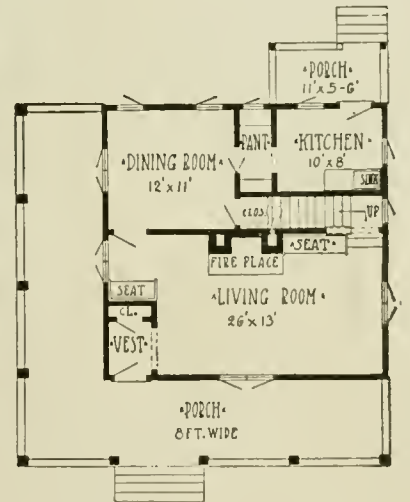
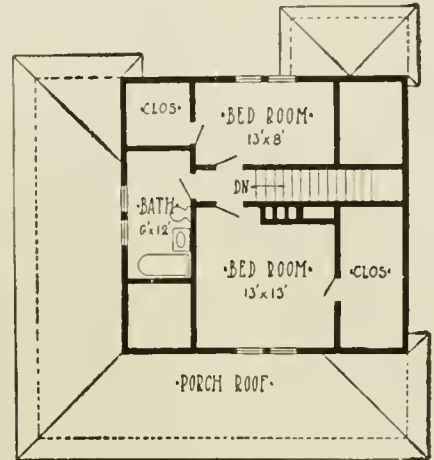
The construction will be light or sub-

stantial, according to the climate and the length of time the house is likely to be occupied during the summer.

It will also be noticed that the chimney for this house is almost in the exact center. When possible, it is better to build a chimney of this type; it saves heat and it saves expense, and it is worth a great deal more because of the general satisfaction of having it right.



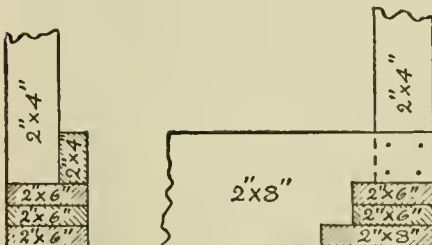
Five-room summer cottage with a long veranda. Size, 27 by 26 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. Blue-prints consist of basement plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. When ordering, ask for Design No. 6004 H.



Floor Plans of Summer Cottage.

How to Frame Sills

The following illustrations show a method of framing sills for the ordinary residence. It is customary in



Two Methods of Framing a Sill.

many localities to use a 6 by 6 for a sill and gain in the floor joists; but a better result is obtained by using timbers as marked in the sketches, spiked together. By using a 2 by 8 and two

2 by 6's spiked together for the sills where the joists have their bearing, the joists can be broken so that the sill that is formed to the three pieces is as good as if it were a solid piece from end to end.

In building in this way there is no trouble to get a straight sill. The 2 by 8 for the bottom piece makes a good bearing for the joists as will be seen by referring to the sketch. The joists are notched out so that they rest on top of the sills, thus getting full strength of the sills and joists with the least amount of framing.

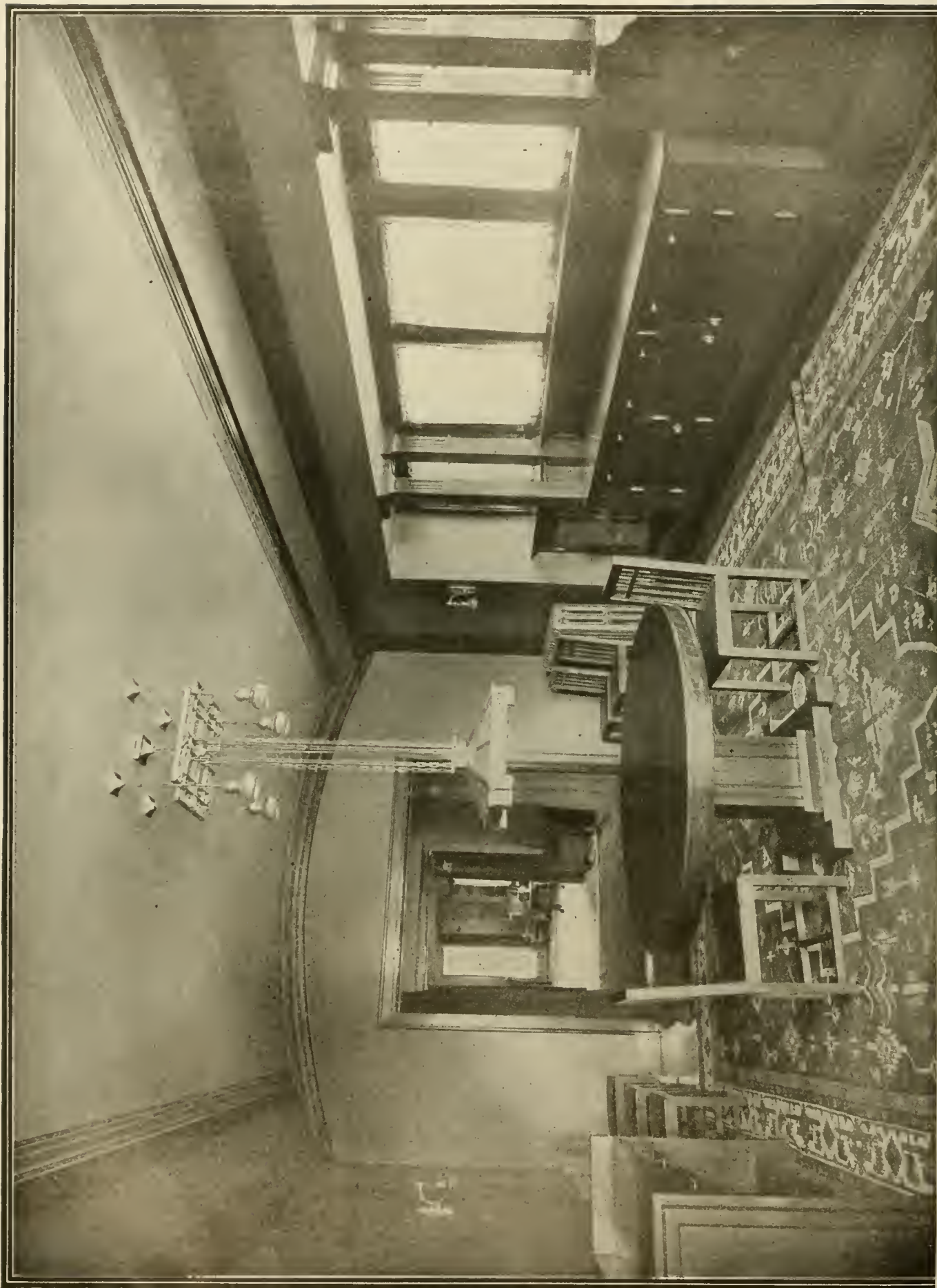
The end sills can be framed all of 2 by 6's with a 2 by 4 placed on top to receive the flooring as shown in the sketch. This method of framing is quick and will produce as good a job as the solid sill. In keeping a frame straight and the splices strong, it is ahead of the old solid sill system with gains, halves, mortises and ten-

ons, as the case may be. In the matter of lumber, the cost is just about the same; it is in the saving of time where the most advantage is.

Fire Protection for Homes

A very good suggestion has been made for simple fire protection in homes; it is worth adopting. Near the head of the stairs, build a small closet containing three shelves each eighteen inches square. On these shelves keep three fire pails painted red, always filled with water. Mark the door of the closet neatly but unmistakably so as to inform the public that they are there. Fire pails are unsightly, but no house should be without them.

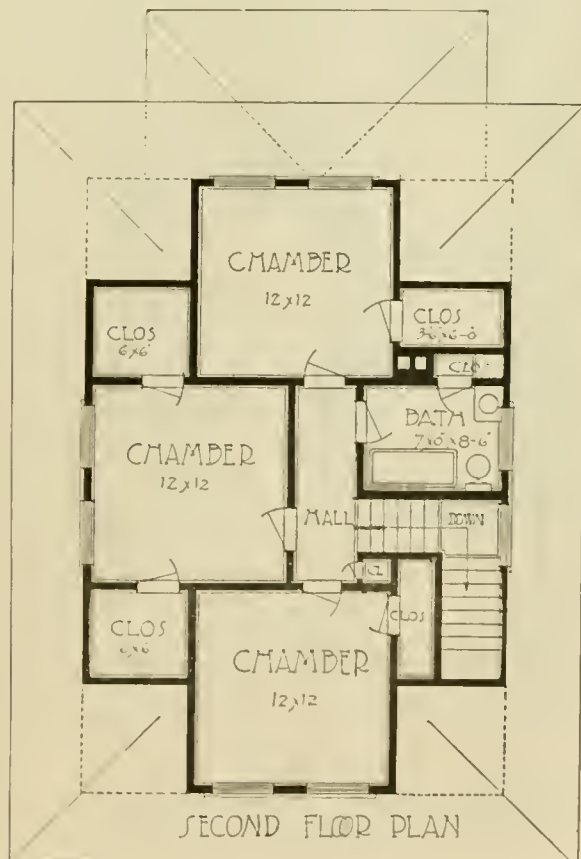
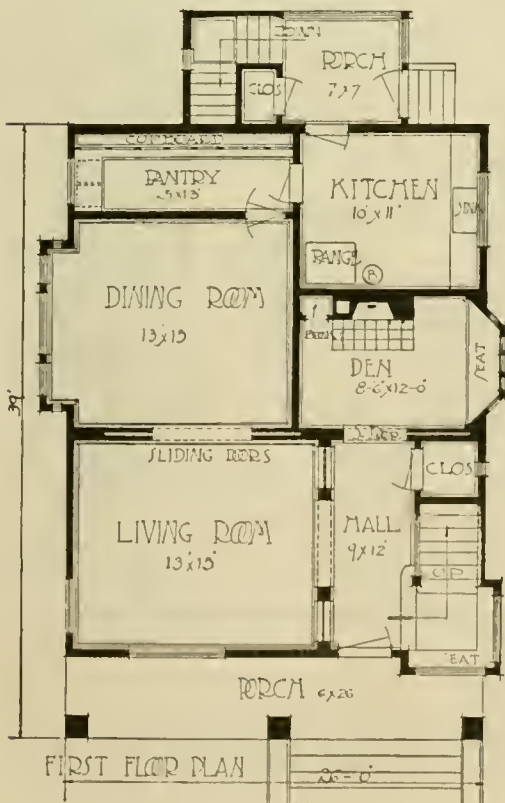
The little space sacrificed to this purpose would be put to no more important use. Needless to say, the door of this closet should have no lock and no one should be permitted to put anything else in the place.



A Modern Dining Room of Great Refinement of Line. The Slight Curve of the Ceiling with its Double Encircling Beam Border Strikes the Note of Elegant Good Taste. The Buffet Built Into the Broad Bay Window is Well Handled. The Lighting Fixtures Deserve Special Notice.

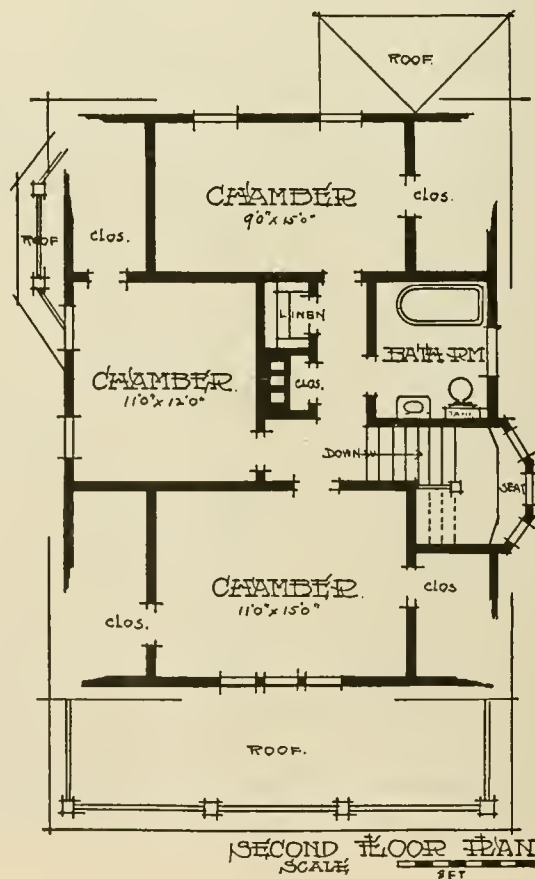
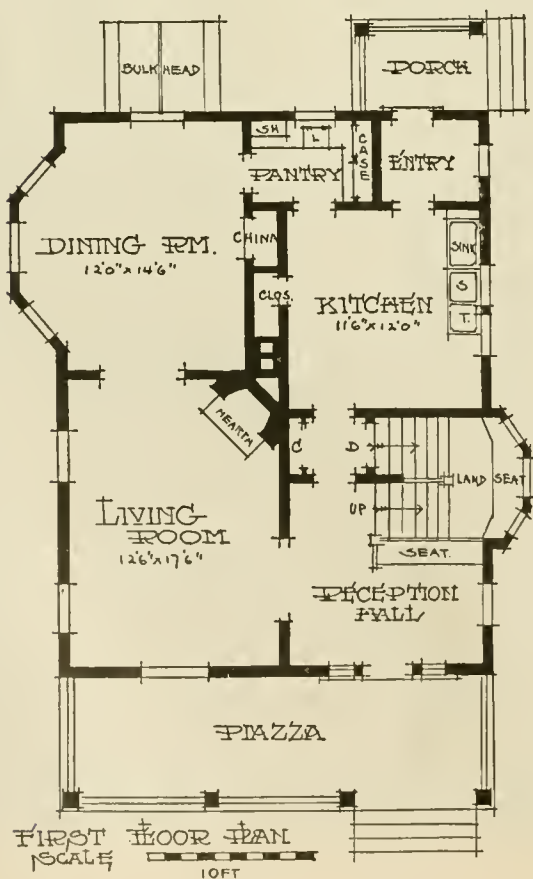


Attractive Story-and-Half Cottage of Frame Construction. Size: 29 feet wide by 33 feet long, not including the porches. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. Blue-prints consist of basement plan; first and second floor plans; roof plan; front, rear, and right and left side elevations; wall sections; and all necessary interior details. Specifications consist of 22 pages of typewritten matter. In ordering, mention Design No. 6681 H.





Gambrel Roof House with Shingled Walls. Size, 25 ft. 6 in. wide by 35 ft. 6 in. deep. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. Blue-prints consist of basement plan; roof plan; first and second floor plans; front, rear, two side elevations; wall sections and all necessary interior details. Specifications consist of twenty-two pages of typewritten matter. Ask for Design No. 6691 H.



FIXTURES AND FURNISHINGS FOR THE NEW HOME

How to Plan the Bath Room

THERE is often poor judgment shown on the part of some builders in the way they lay out a bathroom. Did you ever stop to think that the bathroom is probably more frequently used than any other room in the house? One successful architect has said he always starts his plans with a bathroom and arranges his other rooms around it! This is possibly going somewhat to an extreme, but is not as bad as to arrange all the other rooms first and then sandwich in the bathroom in any old corner where there happens to be space for it.

In the small house boasting of only one bathroom (with perhaps a servant's toilet in the cellar) it is essential to place that bathroom so as to be equally accessible from all bedrooms if possible, and always try (in bungalow and two family construction) to keep the bathroom out of the living room portion of the house.

Many a bathroom has been spoiled by putting a closet opening from another room in the bathroom next to the window. This is done again and again and yet it results in making the whole room only about half as light as it should be.

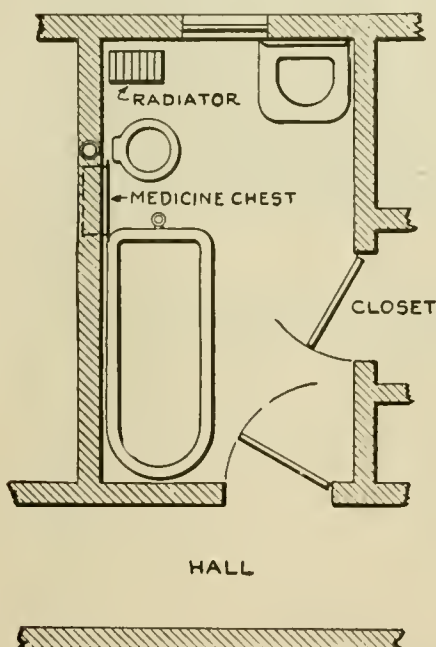


Fig. 1.—A floor plan of bath room, showing recommended arrangement of fixtures.



Certainly a bath room needs light and air as much as any room and a dark bathroom always carries a suggestion of lack of ventilation to the critical observer.

Fig. 1 shows a plan of what the writer considers an ideal bathroom arrangement. This has been tried out and no faults have developed while the following advantages are present, viz.: light in every portion, person bathing in tub faces the light, person washing in lavatory faces the light, person shaving in mirror faces the light, the toilet is inconspicuous when viewed from the door, being largely hidden by the tub, the radiator is in its proper position near the window, the window is accessible for raising or lowering, the clothes closet serves as a storage for a dirty clothes hamper; no fixture interferes with the operation of another, and the only long waste pipe is the one of the smallest size from the lavatory. An elevation showing the position of the mirror is given in Fig. 2.

Every one knows that a person taking a bath closes the bathroom window to avoid draughts in all weather except perhaps during an exceptionally hot period. And knowing this, how many apply it and make the window easily accessible. It should be realized that the bathroom, owing to the use of large quantities of hot water, is often filled with steam and vapor, making the liability of the bathroom window sticking a great one—and who among us has ever tried to raise a stuck window with a bathtub placed directly in front of it and has managed to keep their temper during the operation? Yet you find the bathtub is set right across this very window in fully 50 per cent of the houses the average builder constructs.

Another bathroom point. Usually the mirror nowadays is installed in the front

Some Very Common Mistakes in Bath Room Planning—A Model Arrangement for the Small Bath Room

of the medicine chest, and if this is so the medicine chest should be installed so that when a person looks into this mirror the light *not only* from the window *but also* from the gas or electric fixture will fall on the face—else how is my lady to discover the powder on her face after dark or even, for that matter, in the day time? Care should also be taken in locating a medicine closet so that it will not be over a fixture. Bottles are often tipped over in these shallow chests and, if in falling they strike on a fixture, they are quite liable to do serious damage.

Care should be taken in laying out any bathroom to see that all doors swing clear without interfering with each other or with any of the fixtures. In a house the writer went through recently the water closet and lavatory had been set so close together that (while the cover of the water closet could be lifted readily) the seat was enough wider to strike the lavatory and thus effectually prevent its being raised. Of course we all know this was the plumber's mistake, but the builder who sells his house must perforce assume responsibility for everything which he has permitted to be placed within it.

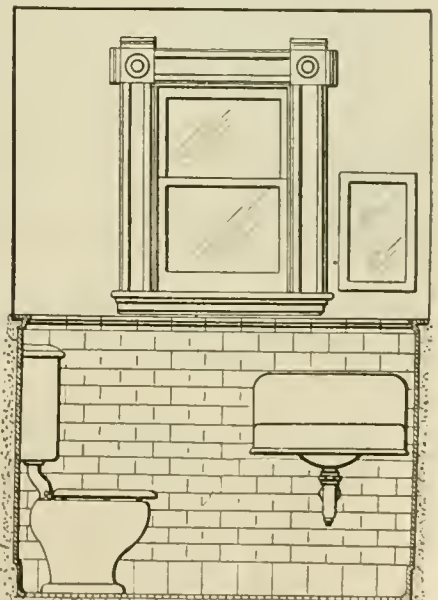


Fig. 2.—Elevation view of end of bath room, showing position of mirror, bowl, etc.

Home Interiors Attract



door openings, book cases, Colonial paneling, and kitchen cabinets are presented.

AFTER all it's the inside of the house that we live in; and if we can make our home interiors bright and interesting, what matters the outside?

In these photographs and drawings on these pages ideas for stairways,

The whole idea these days seems to be for lots of light. Residences have double the window area we used to consider plenty; and on the inside of the up-to-date house we find, in place of the solid sliding doors our

fathers would have used, double doors that are practically all glass. Doors of some sort are needed to prevent drafts—but they must not cut off any light.

A gracefully designed pair of these glazed interior or French doors is illustrated. White enamel paneled wainscot in harmony is also shown. Details show how these features are proportioned and constructed. This is a dining room opening into living room.

The wise home builder is continually on the lookout for neat little ideas in interior finish which he can work in to good advantage. The built-in book case is wanted often for living rooms, libraries, and dens.

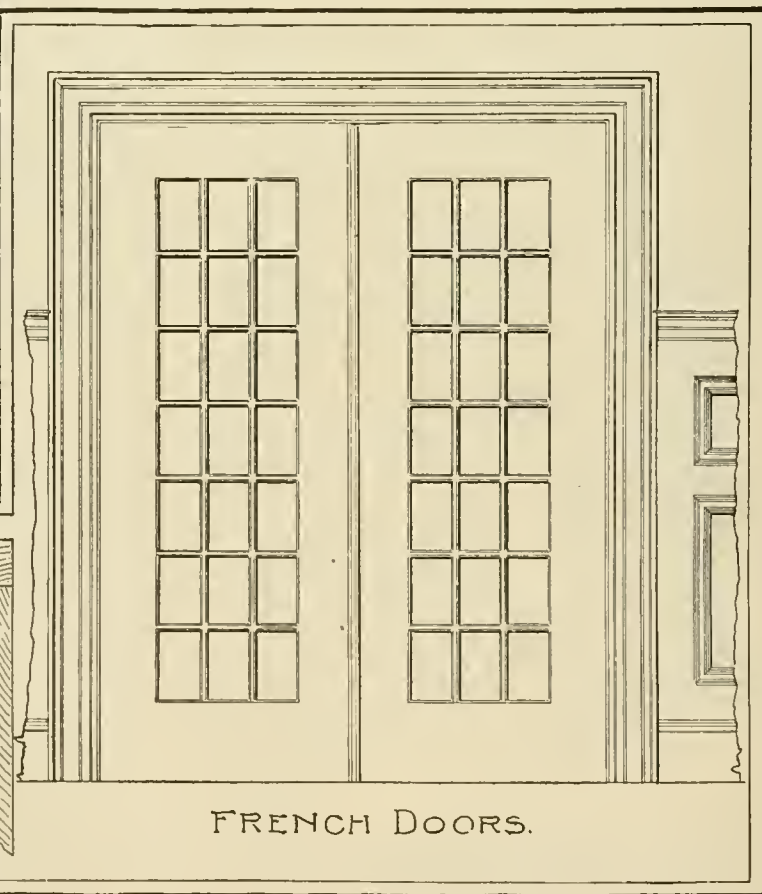
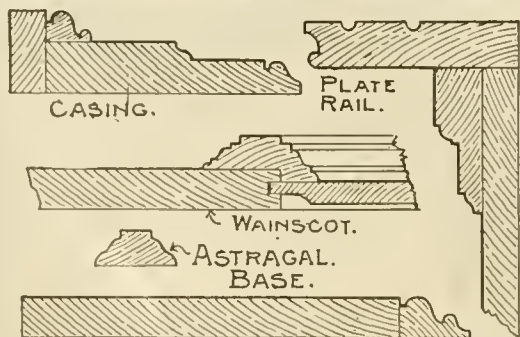


Photo and working drawings of beautiful Colonial interior—paneled wainscot and double glazed doors in the latest fashion.

Both Novel and tive

The case illustrated in the photograph and detailed on this page is more elaborate in design than most. This is a Colonial design finished in white enamel. The diamond shaped panels in the doors are very good.

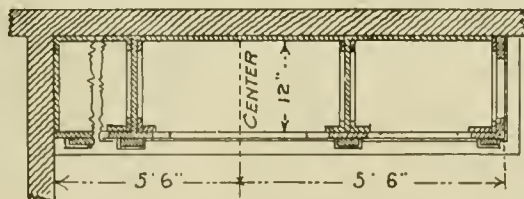
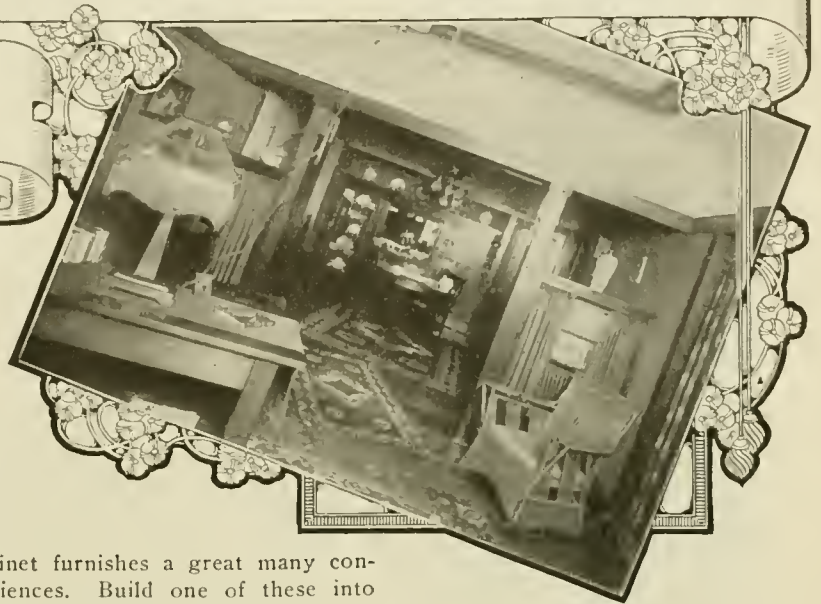
The drawings show the fine points of the design and construction so that house planners will have no trouble making practical use of the suggestions contained.

On page 106 are photographs and scale drawings of a simple kitchen cabinet. One of the photos shows the piece of built-in furniture in process of construction. The other shows it finished and in place. Without being elaborate or costly, this

cabinet furnishes a great many conveniences. Build one of these into your kitchen and win the undying gratitude of the house wife. Full details and dimensions are given.

A piece of this kind may have the work shelf built-up of hard maple and left unfinished; or it may be of some cheaper wood more roughly

made and covered all over with sheet zinc, nicked iron, or copper. With a little ingenuity the carpenter can arrange this so it will pull out—an extension work shelf—much the same as the elaborate boughten kitchen cabinets have.



PLAN OF BOOK CASE.

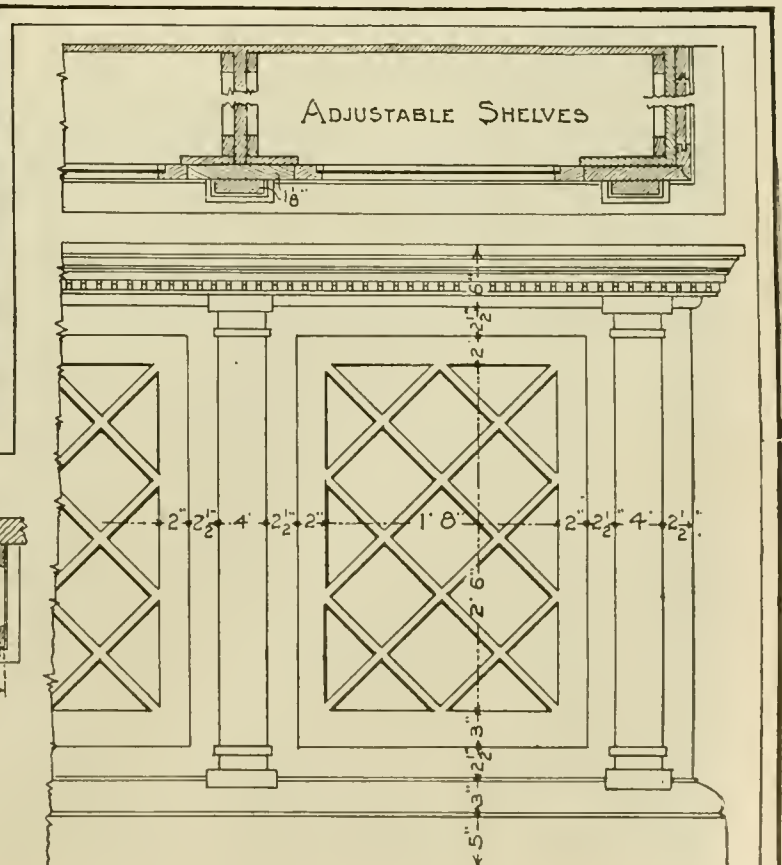
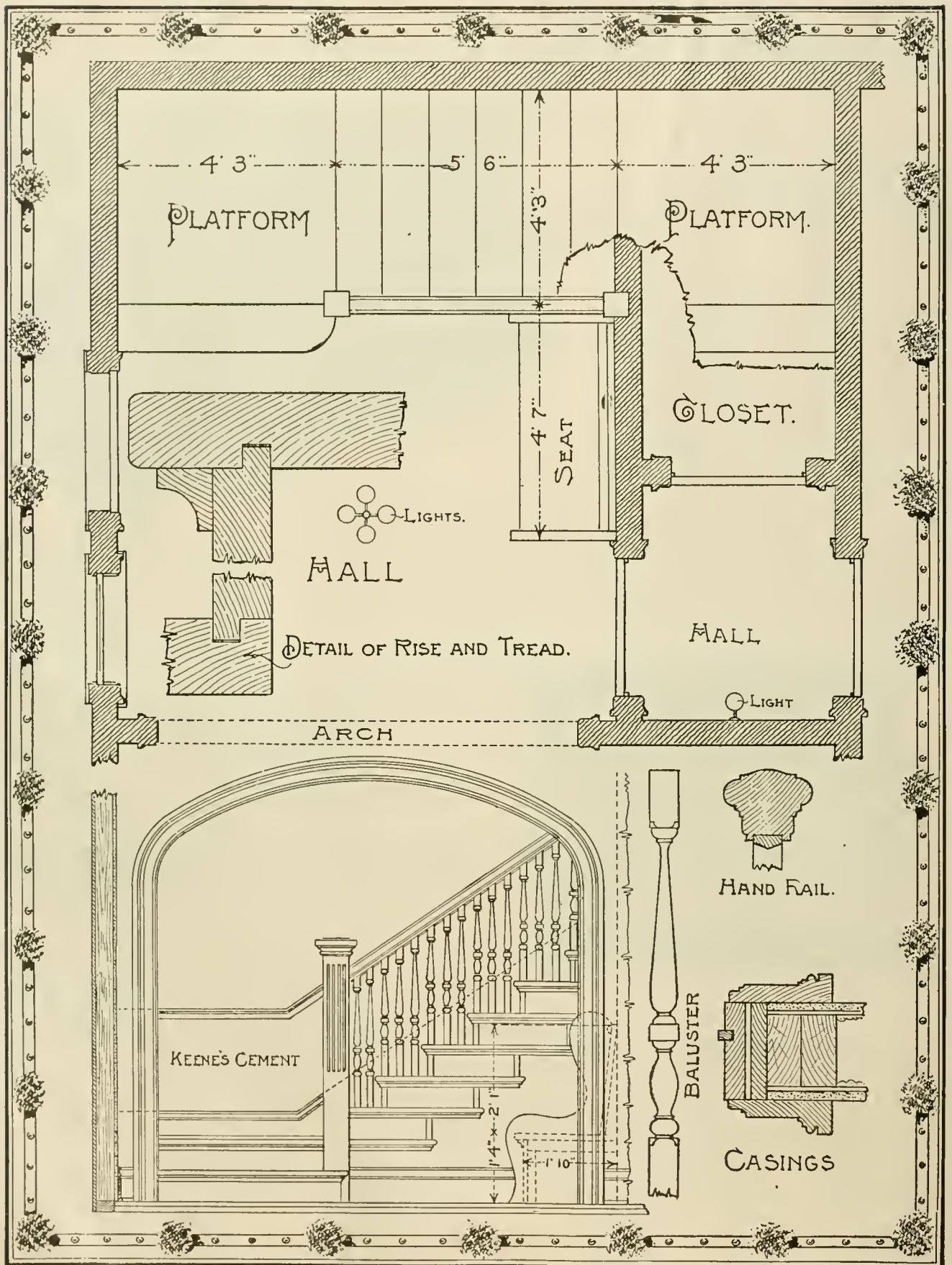


Photo and dimensioned drawings of luxurious built-in book case.



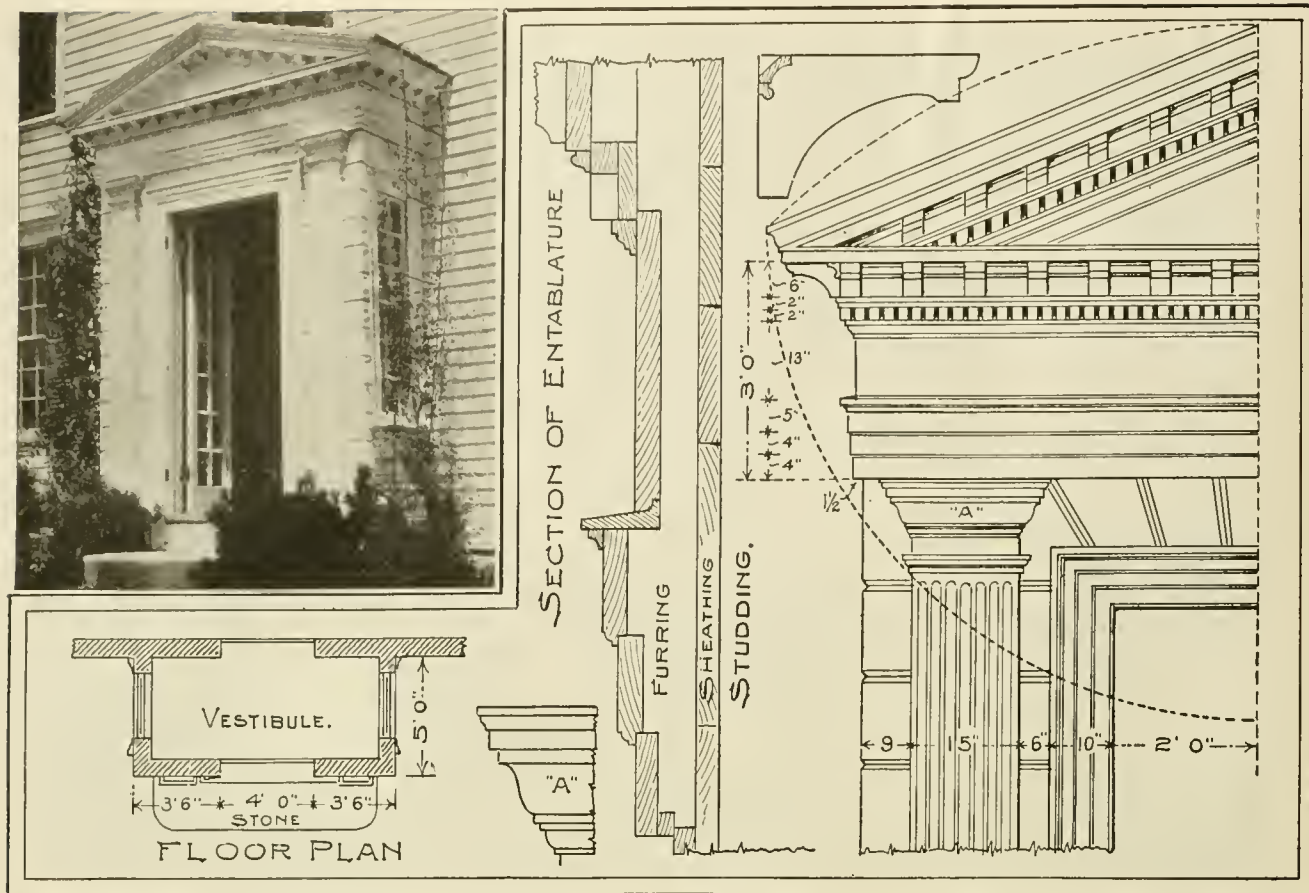
Scale Drawings of Colonial Stairway, Built-in Seat, Arch Opening, Etc.
 Scale $\frac{3}{8}$ in. = 1 ft., Details $1\frac{1}{2}$ in. = 1 ft. except tread and riser detail $\frac{1}{2}$ full size.



This unique Mantel Shelf and Fireplace Seat Go Well with the Exposed Framing and Rough-Finished Walls.



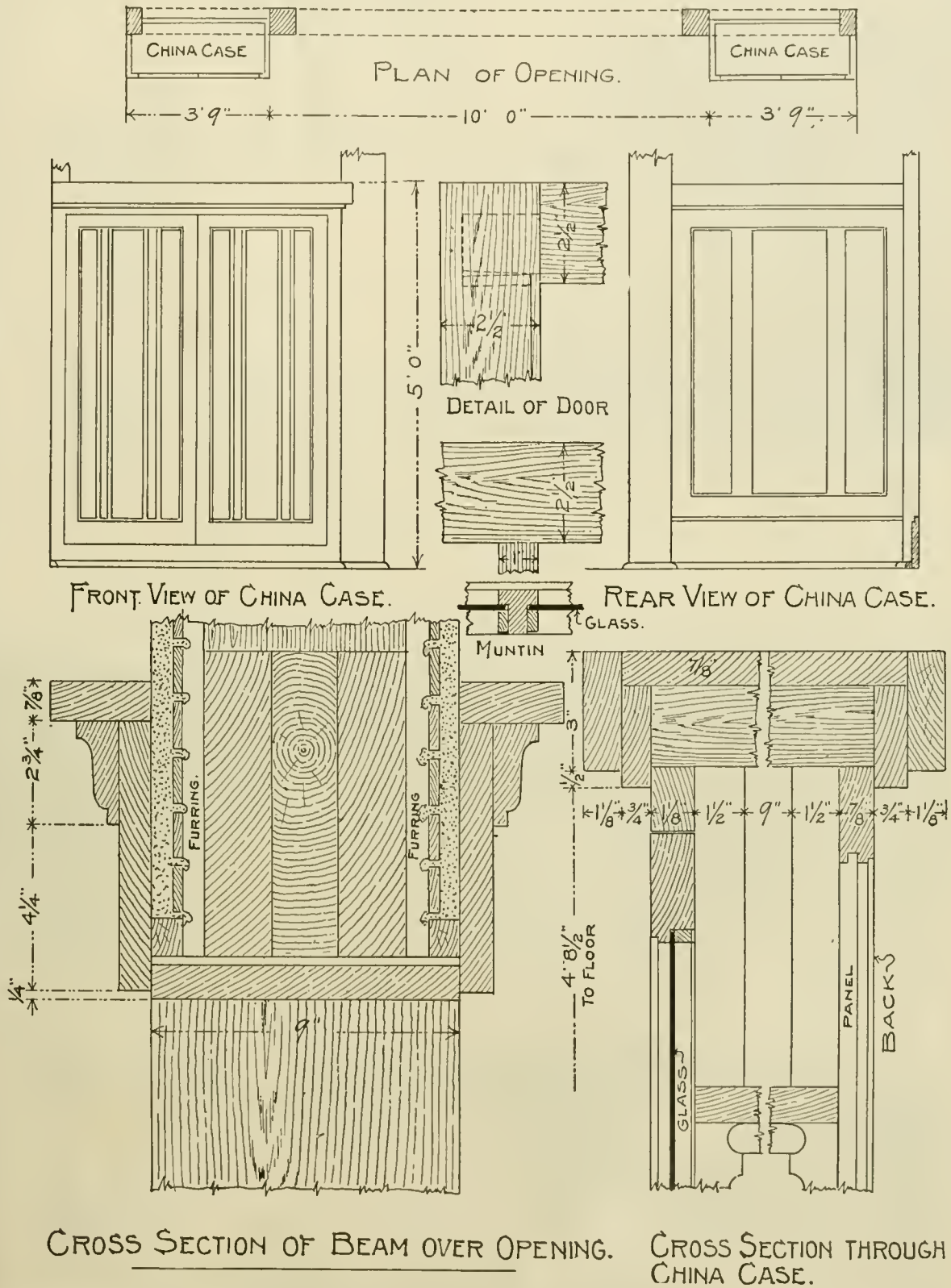
Interior of a Beautiful Indiana Residence Looking from Living Room Across Unique Entrance and Stair-Hall to the Dining Room.



Photo, Plan, and Working Detailed Drawings of a Simple Colonial Entrance in Very Good Taste.

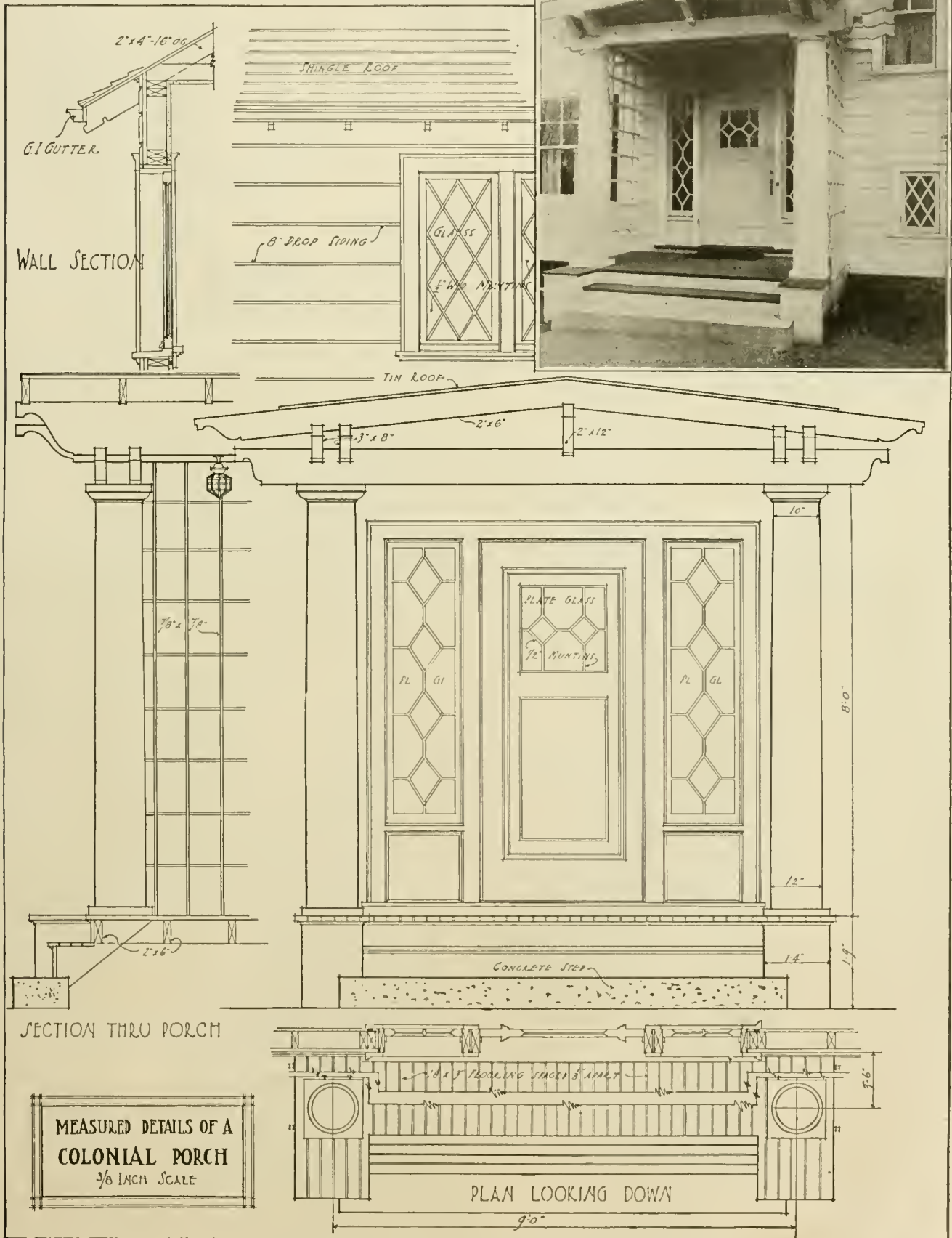


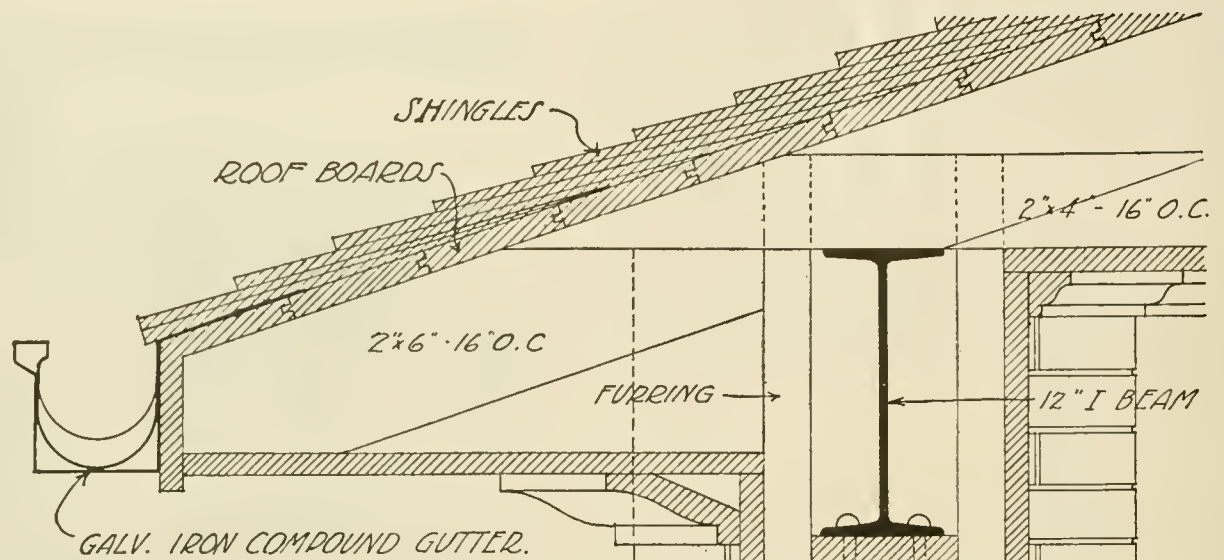
A Special Feature of Interior Trim Designed by a Prominent Architect in the Most Extreme "Modern" Styles—Working Details on Opposite Page.



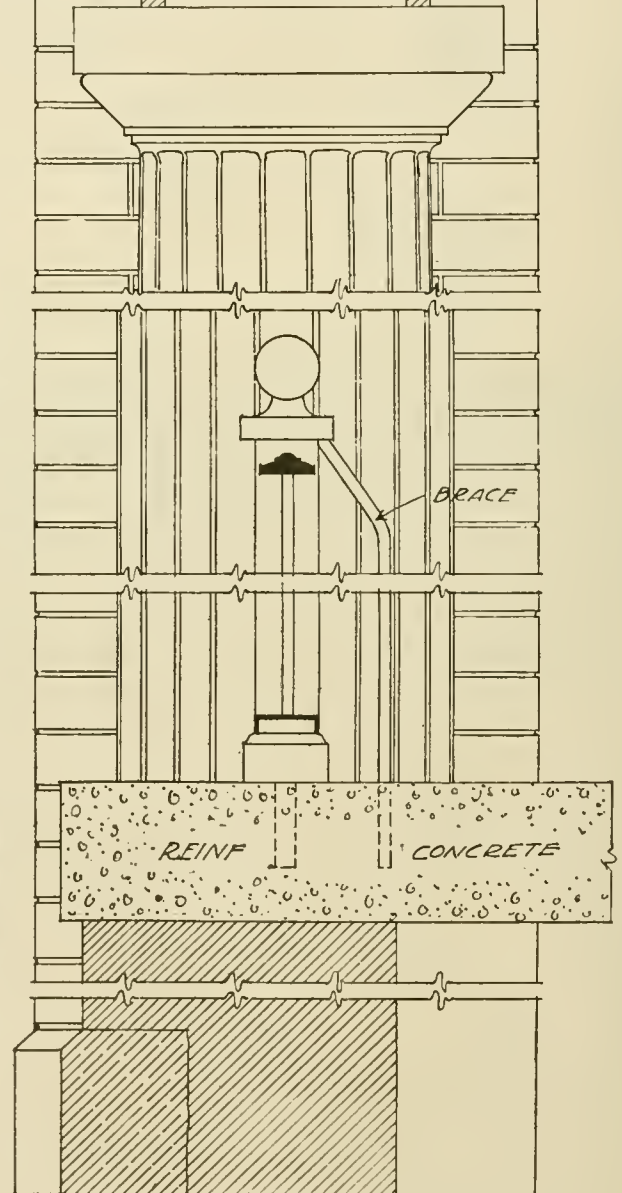
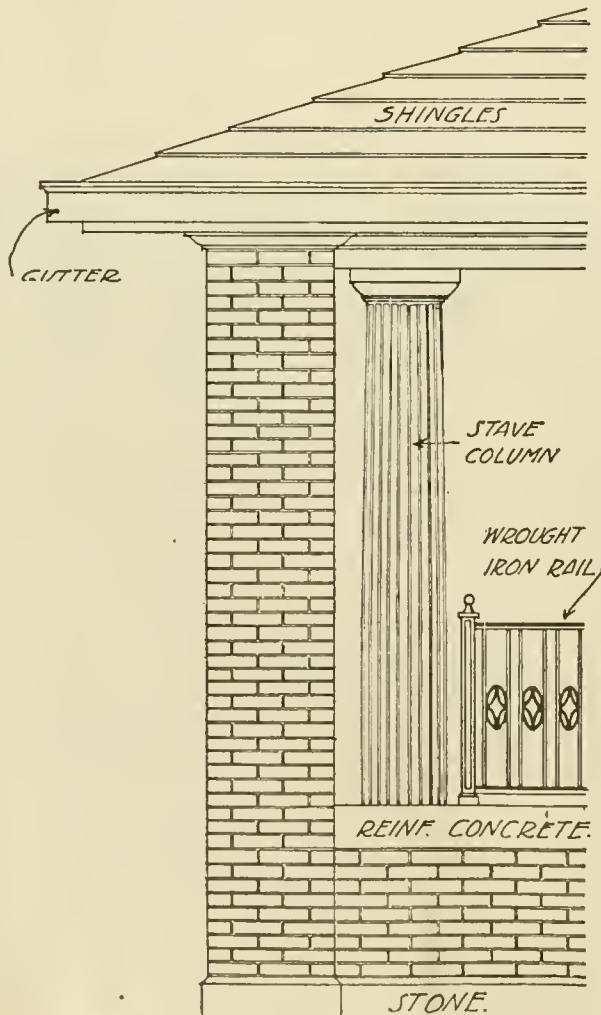
COLONIAL PORCH DETAILS

No style is more popular today for the best work than the Colonial. The old motifs are used with very often a refreshing addition of the new,—as the bungalow rafters on this Colonial porch. For a small front entrance or where the main entrance is on the side, this detail is admirable. The measured drawings are to a scale of $\frac{3}{8}$ inch equals one foot.





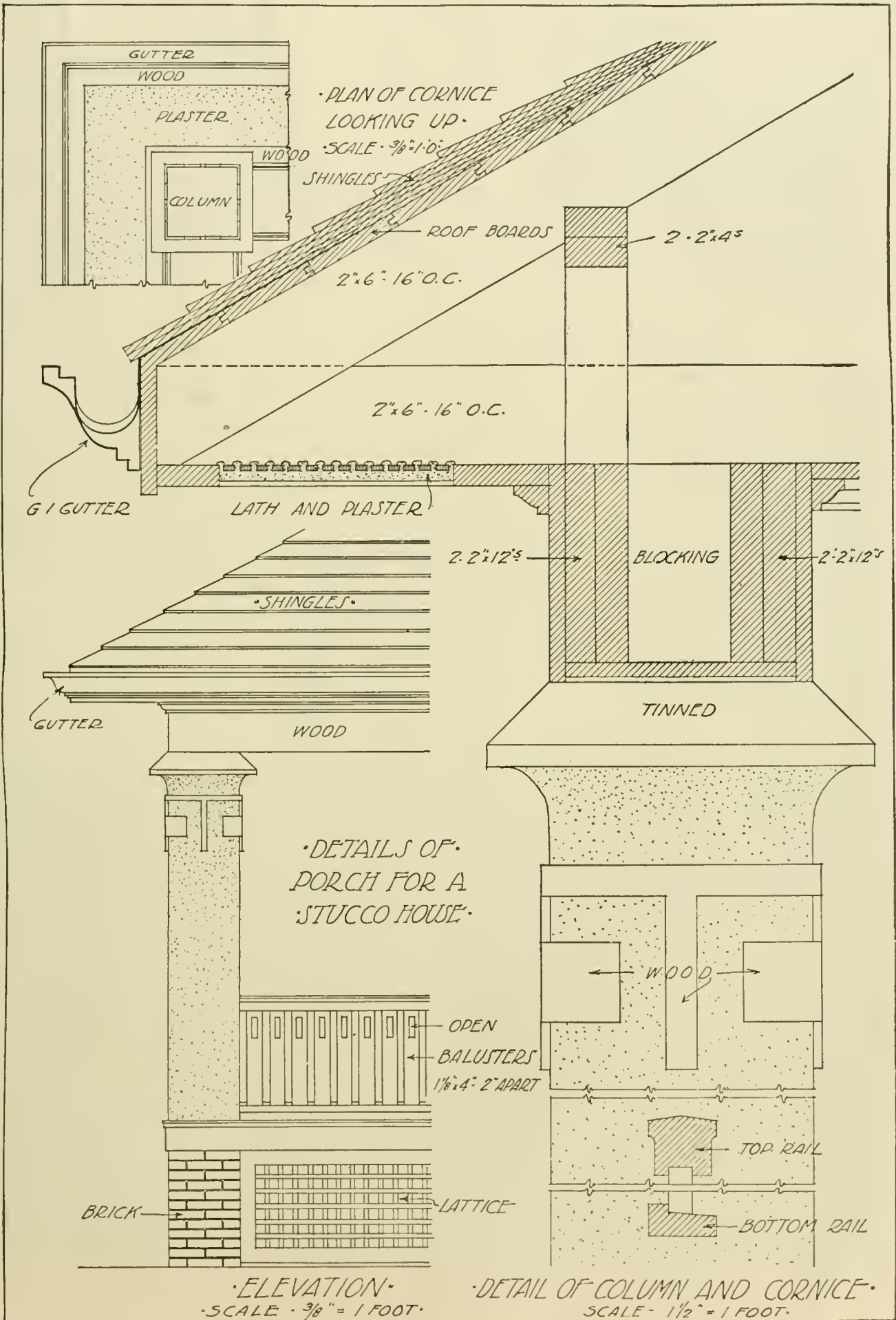
•DETAILS OF•
•PORCH FOR A•
•BRICK HOUSE•



•ELEVATION•
•SCALE - $\frac{3}{8}$ " = 1 FOOT•

•DETAIL OF COLUMNS AND CORNICE•
•SCALE - $1\frac{1}{2}$ " = 1 FOOT•

Colonial Porch with Both Brick and Stave Columns.



Design and Details of Modern Style Stucco Porch.

How to Plan the Kitchen

THE proper arrangement of the kitchen is highly important; give it first consideration. Here much diversity is present, owing perhaps to the different methods pursued by various housewives in carrying on their housework. It is believed, however, that there will be general agreement in the fact that trying to wash dishes and cooking utensils in a sink less than 24 by 30 inches in size is very inconvenient; and according to the writer's ideas the sink should be

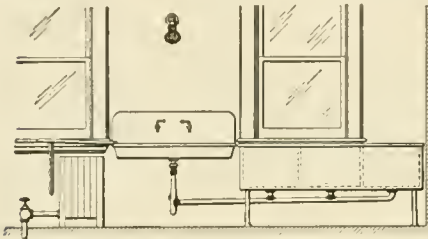


Fig. 1. Elevation of outside kitchen wall, showing recommended position for trays, sink, etc.

big enough to accommodate at least one dish pan. It should, moreover, be provided with a drain board and an integral back.

For an article which is used at least three times a day, and normally much oftener, the kitchen sink has been economized on altogether too much and in some of the newer houses the sinks to the casual observer might well be taken for lavatories, so shrunken in size have they become.

In considering the kitchen sink, the subject of proper light comes up again. Good light is essential to cleanliness in dish washing as well as to every other operation; and therefore an artificial light should be placed as directly over the sink as possible. Owing to the fact that a sink with a high back obstructs a window placed directly back of it, the window or windows should be placed at one or both sides, but as close to the sink as the window will permit. This leaves a blank wall directly back of the sink which is very

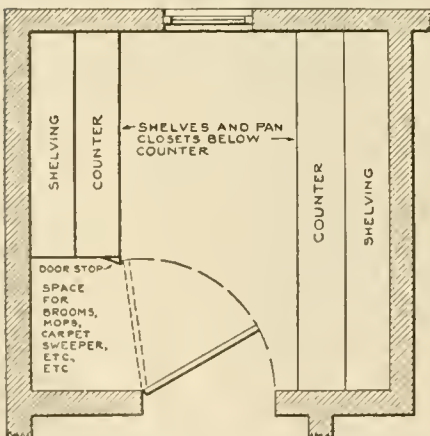


Fig. 2. Floor plan of convenient pantry 8 feet square.

useful for containing the soil and vent pipe of the sink waste, and also for the installation of the sink light before spoken of.

Fig. 1 gives an elevation along one side of a kitchen showing a sink arranged as described with a drainboard, lamp, two windows and a radiator under the drain board to save floor space.

For houses where the wash trays are placed in a separate basement laundry the space here occupied by the wash trays could be utilized for a table. The stove in this case is located so as to get side light from the window and is about in line with the radiator, but back of where this view is taken.

In regard to the wash tray proposition, attention should be directed to the fact that the problem of domestic help is becoming every day more unsolvable and more exasperating, so that family after family is giving up the idea of employing outside help unless possibly on wash days. There is no question that for sanitary reason and kitchen convenience the wash trays should be located in the basement laundry. But in two-family construction this is in-

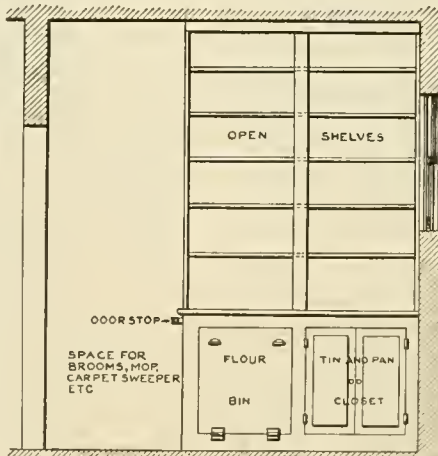


Fig. 3. Elevation view of left wall of pantry.

convenient, in apartments it is manifestly impossible, and in the small, one-family house, consideration should be given to the fact of whether the house is of the type which would be likely to be used by a family employing outside help or not.

It is inconsistent to put up a reasonably priced house for the average small purchaser and to arrange the laundry facilities to suit some other conditions. The average small purchasers will want to do their own washing and not in the cellar. How is a woman to answer the front door bell, receive goods at the side or rear door, look after a baby in the dining or child's room and be doing a washing down cellar at the same time? Nor could she take a child

down on the damp and cold concrete of which the laundry floors are usually constructed. It would seem that the basement laundry, while a good, sanitary and cleanly idea, is not practical in any home unless outside help can be both afforded and procured.

Handy Pantry Arrangement

INTIMATELY connected with the kitchen and laundry facilities comes the question of pantry room and dish cupboards. House after house you go

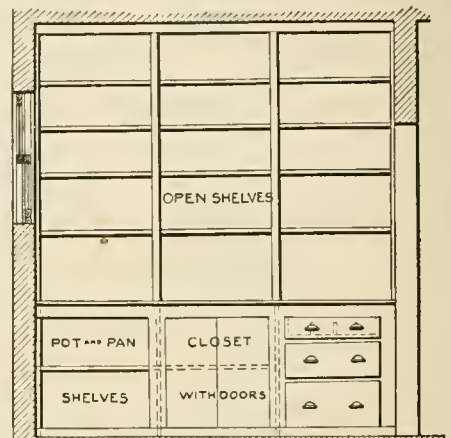


Fig. 4. Elevation view of right wall of pantry.

into has the entire kitchen pantry, china closet, and tin cupboard reduced down to three or four shelves about 12 inches wide and 36 inches long with a little closet below.

A pantry should be large enough to store all the "raw supplies" and "finished products" of the kitchen and should, by all means, be provided with an outside window so that milk and butter can be kept cool by means of the open window in all but the hottest summer weather. The pantry should also be provided with a tight door so as to keep it cool without cooling off the rest of the house. It is for this reason that the pantry located between the dining room and kitchen and through which it is necessary to pass in going from one to the other, is regarded as poor arrangement even though some people *do* prefer it. Besides this, every trip between the dining room and kitchen is lengthened exactly the width of this pantry and may mean the addition of about half a mile extra walk each day for the housewife.

Figs. 2, 3 and 4 show a plan and elevations of an ideal pantry installed in a house recently erected which has met with universal commendation. This room is about 8 feet square and will doubtless be considered too large by many builders. It isn't though. This pantry after having been in use by a family of four persons for about a year and a half has every shelf utilized and for its full length.

INTERIOR DECORATION

Rule for Success—Have a Plan!

Important to Look Ahead in Buying Furniture and in Ordering Home Decorations

NO undertaking ever met with success without having a definite plan. Whether in business, in society or in the home, a plan must first be conceived and executed with care before complete satisfaction is obtained. This truth is realized more frequently in business affairs than in those of the household, but it is nevertheless a fact in every case. It applies particularly to such an undertaking as the decorating of one's home. How many of us ever have a carefully prepared plan of decoration?

In nine cases out of ten the home builder finds himself in the midst of his decorative details and before he realizes it and without a plan at that, and further-

more so confused regarding woodwork, wall and floor color treatments, that he hardly knows which way to turn. The first question can be answered, therefore, by two words, "Not many"

How many builders realize what can be accomplished by such a plan? This question can be answered by the same two words. The fact is that all those who have lived through the building of a home have realized to their sorrow just what more careful planning and careful buying might have accomplished. These questions apply to the entire building, but particularly to the interior decorating, the subject with which we wish to deal.

The importance of a general plan for

interior decorating is first realized when one finds himself face to face with a desire for a mahogany finish on oak woodwork to match valuable furniture, or some such unsurmountable obstacle. Then it is too late to go back and start over. It is too late to make the discovery that white enamel woodwork is better, for some one of the chambers, or that the green rug does not harmonize satisfactorily with the color effects applied to the dining room walls.

So work out a plan and then plan out the work—know just what kind of furniture, hangings, rugs, etc., are to be used in every room before the architect specifies the kind of wood for the woodwork, the color of brick for fireplace, or, in



Artist's sketch of living room, showing good effect of simplicity in decoration. Walls and ceiling are covered with a flat tone oil paint.



Artist's sketch of bedroom finished in white enamel with tinted walls and ceiling and stenciled frieze in oil colors.

fact, any of the details which bear directly or indirectly upon the final decorative effect. Know just how these various surfaces are to be treated, how many coats of stain or varnish are to be used on woodwork and floors—the exact color for walls and woodwork before your painting contract is signed.

There are many details, many pitfalls of this kind which might be mentioned in this connection, any one of which, when neglected, has caused many a pang of disappointment to the home-builder—all of which might have been eliminated.

Such a plan of action is not a difficult undertaking. It must naturally be based entirely on the style of architecture chosen for the house, and with this important point decided upon, the plan is built up around it. Very few of us are able to start with a clean slate, but rather it is necessary to use many pieces of old furniture, some of them rare old pieces—heirlooms, possibly—the dining room table and buffet are comparatively new and their style is satisfactory; then, again, much of the chamber furnishing cannot possibly be changed, nor would be changed if possible. Let the plan of the interior decoration start right here. Decide upon such furnishings as will be permanent, taking one room after another. Consider the relation of furniture to woodwork. If mahogany furniture has the preference choose it also for the woodwork, or select white enamel, which is equally satisfactory.

If, however, the furniture is oak, then let the woodwork be also oak, and stain it to match. Perhaps some objectionable pieces must be used. Don't let this interfere with the plan.

Part of the plan is to get rid of these objectionable features, these inharmonious notes in the scheme, by regulating all future purchases. Promiscuous buy-

ing is the bane of harmony in decoration. We buy too much on the spur of the moment. We buy in parts, too often, without thought as to whether these parts bring harmony or not.

So we must know just the kind of furniture, woodwork, floors, etc., desired before we decide on our wall treatment,



Photograph of uniquely decorated bedroom. The wall paper frieze of rich coloring, showing a landscape scene, occupies the upper portion of the walls. Then comes a small plate rail, and below that, grass cloth papering.

as well as the kind and color of rugs, hangings and upholstery; then turn these matters over in our minds, study them, confer with others regarding them, seek from those manufacturers who offer decorative assistance, and by such serious consideration acquire a better feeling for color and a knowledge of proper decorative treatments. Many progressive manufacturers have studied their products from an artistic standpoint—many of them are prepared to tell you just the kind and color to select under the conditions you are confronted with. The mantel manufacturer can give you suggestions for the style of your fireplace. The furniture manufacturer will assist you.

In our progress from one room to another, working out a plan for each, building the schemes up around the satisfactory furnishings we already have, it is of vital importance that the relation of one room to another be considered. Avoid harsh contrasts between rooms just as much as between parts of one room. Let one scheme lead up to another like the notes of musical harmony. Don't lose heart if the first year doesn't

bring complete satisfaction throughout the entire house. Little by little the undesirable pieces of furniture and inharmonious hangings will disappear and behold! a wonderful change has been wrought. All by means of the plan and without any extra expense.

Keeping Down the Cost

Local building materials are best and cheapest.

Let the mechanics work with materials they are familiar with.

In the cities where there is considerable brick work being done and plenty of skilled brick masons, a brick house costs very little more than frame.

Out in the country where the carpenter is the whole thing, the cost of brick construction runs away up.

Don't always take the lowest bid. The low bidder is frequently a mistake maker.

And in the end you will pay for his mistakes.

Deal always with a responsible

builder. One who has a reputation for honesty and good work to maintain.

It's no economy to try to use cheap materials. Labor is the big item of expense anyway, and it costs just as much to put together cheap stuff.

Furnish good, substantial building materials, then you will have a permanent property. It will cost very little more.

Build warmly. \$25 extra for building paper will save many a ton of hard coal at \$8 per.

An eight-foot basement should be excavated under the entire house. There is nothing colder than a cold floor over a chunk of outside January atmosphere.

Put a smooth concrete floor all over the basement. It will make it dry and usable and easy to keep clean.

Double floors throughout, with building paper between, are good economy. Also lath and plaster the basement ceiling. It will keep furnace dust and cold air out of the house.



View of Book Case Corner in Big Living Room of Little Mission Bungalow.



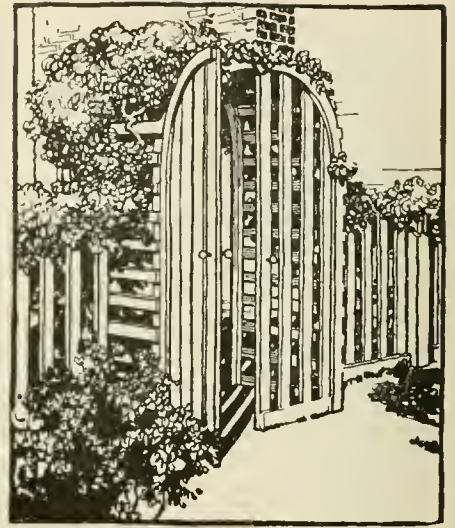
Pergolas

Both

Practical

and

Picturesque



Landscape gardening effects in connection with building are becoming exceedingly popular, especially so in connection with home building. We Americans are now beginning to realize what, abroad, they have well understood and practiced for years,—that it is not so much the house itself as it is its surroundings which

make an attractive place. Gardening schemes may be simple and inexpensive, or more elaborate as desired, and the space to be treated may be large in extent or small like the ordinary city yard; but in any case a pergola is the real essential thing that is needed today, if one is to be in style.

A pergola, properly designed, is the

connecting link, architecturally, between the house and the garden; or it may serve as the terminal of a gardening plan. The pergola is the immediate concern of the architect and builder, for he must see to it that it is, first, of the proper design to harmonize with the style of the house; and, second, that it is properly constructed



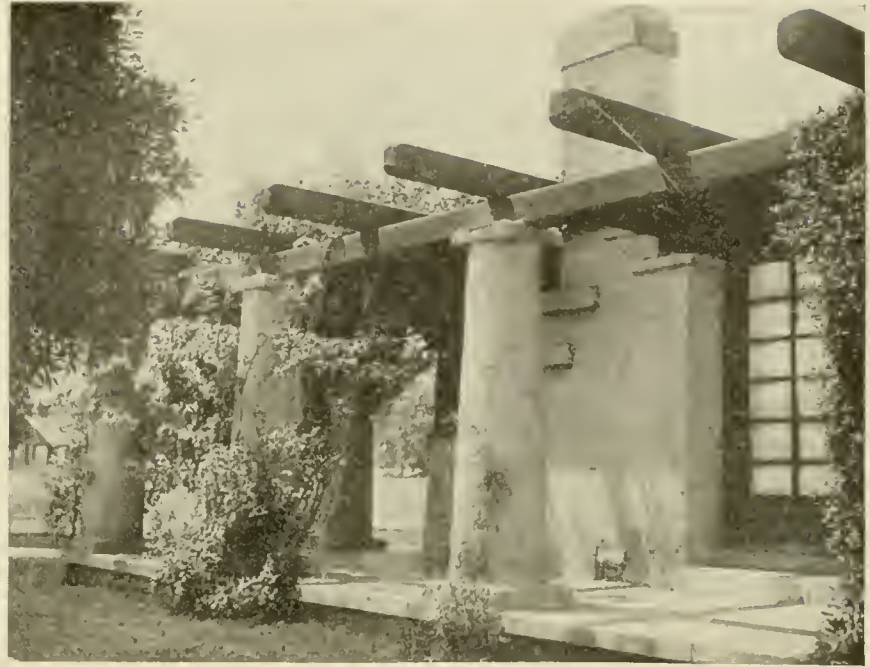
Classic Pergola as the Central Feature of a Beautiful Garden in Pasadena.

of suitable materials and set up as it should be. With this substantial and artistic foundation work, the garden lover can then plant and train his shrubs and vines to produce a really beautiful effect.

The variety of pergola designs and their adaptation to meet the needs of special cases are truly remarkable. The photographs reproduced herewith offer a few suggestions.

The pergola is just as valuable for improving the appearance of the grounds of an old house as when used in connection with new buildings; in fact, one of the greatest uses for it is in redeeming the back yards of city and suburban homes. An authority on pergolas, commenting on this, has said that their greatest value relative to their surroundings is in such locations, where on first thought, one would not think it possible to use anything of the sort to improve appearances.

Suburban back gardens are usually all alike, and even though they may be neatly kept, the view of the neighbor's back steps and kitchen windows is not very inspiring. The pergola is the salvation of a garden of this kind. Placed well towards the end of the lot, it terminates the view with attractive and artistic things. In this



Pergola Pillars Corresponding Architecturally with the Concrete Chimney of the Residence.

way a back garden is given individuality, and privacy is secured.

A word may be said as to the planting of vines and other floral adjuncts to the pergola. If this work is done

with discrimination and care, there need be few months in the year when there is not some protecting foliage to lend grace to the pillars and roof. Certainly all summer long there



Pergola with Concrete Seats.



Elaborate Pergola with Concrete Columns.

should be no dearth. In this connection the grape vine comes to mind first and Virginia creeper and wistaria follow closely. There is variety enough, however, besides these coverings. Almost as well known are scarlet creeper, trumpet vine, Japanese kudso, clematis, the honeysuckle and the woodbine.

In America, until recent years, the pergola had a much harder task in winning popular favor. The free and easy manner of the people was in direct contrast with that of their European cousins; and consequently the proverbial front porch was not going to be readily superseded. Usually situated within hailing distance of the

sidewalk, without even the semblance of a hedge fence between, the front porch permitted of the exchange of greetings and of discussion of the live topics of the day with passing friends.

A keener appreciation of the benefits to be derived from a closer association with nature, however—an appreciation particularly noticeable in America—emphasized the merits of the pergola, and practically resulted in the abandonment of the old-style porch, which, with its solid roof, unduly darkens the entrance and excludes both sunshine and fresh air which would otherwise find their way into the first story of the home.

Thus, in line with the modern idea of sanitary environment, we find provision made for the dignified and artistic pergola-porch, the sun parlor, the solarium, the outdoor living room, the outdoor sleeping chamber, and the pergola.

In design, the pergola varies to as great an extent as do the materials with which it is built; nevertheless the element of beauty is always present. Rustic work is generally followed in England, the pergola there consisting of larch poles supported on stout wooden posts, while the concrete pergola is naturally a distinctively American type.



Concrete Pergola Giving a Suggestion of Some of the Ornamental Possibilities of Concrete.

Finishing and Furnishing The New Home



Making the Most of the Living-Room

The living-room, where for the most part the family life centers, is undoubtedly the most important apartment in the entire house, and to its arrangement and furnishing careful attention should be given, lest through over-ornamentation and elaboration of detail, it lose the simple cheery atmosphere that should be its chief characteristic, and without which it lacks the most essential asset to its success.

We of the present generation have come to a realizing sense of the importance of fresh air and perfect ventilation in our homes, and the houses

of today are happily being built with a view to obtaining all the air and light possible in each and every apartment. Frequently, however, rooms in which the ventilation and light have been carefully attended to, are robbed of their healthful atmosphere through the nature of the furniture employed, and thus it will be seen that the equipment of a room is quite as important as its construction, and it is this point above all others that the housewife must bear in mind in the arrangement of the living-room.

The living-rooms of yesterday were adorned with heavy curtains, fringed

window cornices, crowds of ornaments, chimney boards and other devices for keeping out the air, as well as mantel curtains, picture throws, and several other dust accumulators, and it seems unfortunate that in many homes of the present some of these same undesirable adjuncts are still used, and no doubt will continue to be, until all housekeepers come to a realizing knowledge of their detriment to comfort as well as to health.

The time has passed when wall-paper alone is the solution of wall coverings, and today, in addition, we have burlap, grass cloth, canvas, buckram, leatherole and countless other stuffs to choose from, each presenting strong claims for its consideration. Burlap possesses the advantage of fading far less quickly than paper, and then, too, when it does fade, it can be recolored without removing. Its original tone may be applied in dye or stain, or if a new effect is desired, it can be gained by using a different color. Where a plain wall is desired there is no question of the economy and beauty of burlap, and for this purpose both buckram and canvas can also be recommended



Living Room in a Residence, Showing Most Modern Ideas in Finishing and Furnishing the Home.



A Bay Window Fireplace—Formed of Brick and Tile and with an Art Panel Above Flanked by Two Casements.

as they are equally durable and differ but slightly in texture.

Like burlap, grasscloth wears well, and can be recolored in much the same way, and its uneven weave, which produces light and shade and a surface of velvety richness, renders it among the most attractive of the plain surface coverings. It costs more than burlap, but its texture repays for the difference in price.

Of course all these materials are far more expensive than wall papers, and for this reason many housewives stick to the old style wall covering. Two-tone papers do not fade as rapidly as those of plain surface, but the latter in many localities seem to have first call. They come in an almost limitless number of qualities, and thus choice is not difficult. "Ingrain" and "cartridge" are types frequently selected, and crepes and fibres, which present a rougher finish, are also much employed. "Fabric" papers fill a middle ground between plain and two-toned wall coverings, and while not glossy are smooth, and at close range have the appearance of loosely woven cloth. They cost more than the plain papers, but fade far less quickly, and for this reason the extra expenditure is warranted, and their use is recommended.

Floor coverings, to be effective, are dependent upon the relationship they bear to the general scheme of decoration. Whenever possible, their color tone should be studied in conjunction with the finish of the woodwork and walls, and the relationship of these

factors should be thoroughly established before the general furnishings are determined. Likewise, the texture of the covering is quite as important as its coloring, and the finely woven rugs which would be suitable for the drawing-room, should never be used in the living-room, where they would be accorded much rougher usage and thus would soon wear out.

Rugs for the living-room should be of a durable nature, for the wear upon them is sure to be almost constant, and for this reason the Oriental rugs are recommended as are the hand-

tufted European weaves in plain colors, with borders in self-tone. The Navajo rugs, too, are admirable, and while they are quite expensive, their wearing qualities are of the best, and warrant their purchase. Small rugs are frequently effective when used in conjunction with a large central rug, and when of similar texture and coloring are particularly attractive.

The window hangings should be governed principally by the shape and size of the windows themselves. The casement window lends itself readily to decoration, and is most attractive when hung with simple muslin or net curtains, without an under shade of any sort. The sash window, while more difficult to treat, is sure to be artistic if simplicity of line is kept in mind in its arrangement. Looping and draping should be avoided, but a pretty effect is often produced by a valance, provided it is not too deep. In choosing materials, a rule that is well to remember is that plain materials are almost always best, and with figured wall coverings should invariably be used. Figured window hangings should never be employed except with plain walls, and then care should be taken that the design is not too large.

Perhaps the ideal fabric for curtains is silk, which is obtainable in good colors at moderate cost. If the living-room is located on the north side of the house, curtains of yellow silk are good, as the light filtering through them gives the impression of sunshine, provided this color harmonizes with the general scheme of decoration.



Colonial Style Living Room in White Enamel—Wicker Furniture with Colored Chintz Cushions to Match the Wall-paper Border.

Green and other cold colors should be used only in sunny rooms.

Whatever the material used, it should be agreeable in color and texture, washable, and as far as possible, sun-proof. It is decidedly better to buy inexpensive goods, which can be easily replaced, than the more costly materials, which, while they last longer, at the best have only a limited life.

Nets of all kinds are especially attractive, and the Arabian net, of a pale string color, is particularly well suited to living-room use. Lace should be used only when it is very good, and

real lace or none at all should be the motto of the housewife of good taste.

Each living-room, of course, requires different treatment, and it is only by careful planning and attention to details that its best points are brought out. There is no fixed rule to be laid down for the embellishment of the living-room, for what would be attractive in one, would probably be ugly in another, and thus the general arrangement of the furniture and the introduction of various essentials to add to the attractiveness of the whole, is best determined by the one who makes the arrangement.

comfort seeking appendage, boasting no pretensions whatever to architectural merit.

Later, when unwearied toil had made living easier, and the people found themselves able to afford more desirable homes, there sprang up both North and South, those charming colonial mansions that were the fit abode of a brave race. However severely their simplicity of design may have been criticised by later generations, the fact remains that no other style of architecture has yet appeared that so fully satisfied, in all respects, the conditions of comfort, dignity and beauty of outline, so essential to the success of any structure, as did these homes of the eighteenth century.

The Hallway in American Homes

The development of the hallway in American homes constitutes an interesting architectural study. In the early pioneer dwellings, where all things were arranged for comfort rather than for effect, the outer door opened directly into the main, and

frequently the only, room in the house. Sometimes it was sheltered on the outside by a quaint closed porch to afford additional warmth and protection from the driving storms of rain or snow, but it was never anything more than a mere

The distinctive type these dwellings represented demanded a hallway of spacious dimensions, extending quite through the center of the house, from the pillared portico and stately entrance door, with its fan lights and



The little floor plan diagram shows how this is arranged. The stairway is at the end of the hall, half concealed behind a graceful screen of turned spindles. A short hall runs back to the kitchen, making this one stairway serve very nicely as both front and rear stairs. It is quite the best solution of this small-home problem.

brazen knocker, to another door at the rear, through whose glazed upper panels tantalizing glimpses could be obtained of tall hollyhocks and climbing roses growing in the fine old-fashioned garden just without. When both doors were set wide open, in the summer season, the hall was the coolest spot in the entire dwelling.

With the gradual decline in popular favor of the colonial type of dwelling, the hallway became less and less spacious until toward the middle of the nineteenth century it was little more than an entry. A mirror and a hat-rack generally constituted the furnishings, and frequently these two pieces were combined into one. If besides these, the hall was large enough to hold a table and a chair, it was considered spacious, and if, in addition, it allowed of the arrangement of a lounge, the owner felt obliged to apologize for its extensiveness.

Happily, present day house builders

are coming to a realizing sense of the importance of the hallway, and are beginning to appreciate the fact that to be attractive, the hall must be ample, well lighted, and of pleasing character. Surely no feature of the interior is capable of greater architectural development, and no feature presents such wonderful possibilities for unusual and artistic treatment.

The hall gives the first as well as the final impression of the interior. It serves as the introduction to the house, and its character reflects the taste of the owner. It has the power to make or mar the general effect of the apartments adjoining it, no matter how charming in proportion and equipment they may be, and upon its construction and arrangement depends to a considerable extent the success of the interior.

Sometimes the hallway is made to serve the purpose of the living-room. While this plan works fairly well in a

summer house, where entertainments are more or less informal, it is rarely employed with satisfactory results in a winter residence. The reasons for this are obvious. It is too public; it lacks the "homey" feeling of a real living-room; and it does not satisfy the demand for separation between public and private portions, which is as old as architecture itself.

To best serve its purpose the hallway should be distinct from, and not a part of, the living-room. This is especially true in bleak Northern climates, where the hall must necessarily serve as a buffer against the cold, stormy outer world, and should thus be shut off from the inner sanctuary of the home. This does not mean that it should be cramped or lacking in comfort; on the contrary, even the hallway in the small house should be ample in proportion to the dimensions of the whole and should express that atmosphere of welcome which is one of the chief assets to its success.

But whatever the size of the hall or the dimensions of the house of which it forms a part, simplicity and dignity should be its chief characteristics. Well marked lines of construction and details that have relief in form and color are always to be preferred to irregular, oddly planned effects, that while attractive, are apt to give an overcrowded and unbalanced appearance. Even in the more modest houses, strong, simple effects are the most impressive, and for this reason a little touch of the monumental treatment is desirable. Walls are often paneled in wood or plaster, with stucco reliefs to bring about this result, and even when expense is an item to be contended with, handsome effects may be produced by simply fastening wood mouldings on the plaster walls and painting the whole a uniform color, a treatment which is comparatively inexpensive.

If one has a preference for papered walls, there is a variety of styles to choose from, but care should be exercised in the selection for much depends upon its conformity with the general finish of the whole. All-over patterns are rarely attractive, and if employed, should be small in size and subdued in coloring. Patterns destroy simplicity, which the most important thing to preserve in the hall, and when used in connection with structural motifs, such as arches, columns, etc., impart an ordinary appearance and frequently spoil an otherwise successful interior. Simplicity should be the keynote of the modern hallway in order to produce the most desirable effect.



Beautiful Stair Hall Exhibiting Several Good Ideas for Builders. This Arrangement Works Best Where You Have a One-Turn Stair.

Decorative Value of Tile Flooring

Tile floors have a practical value; they also have great decorative value, and it is with the latter that we are at present concerned. Owing to the peculiar limitations of the material and the methods of manufacture, tiles are necessarily small units. To cover a large surface with these units, obviously requires joints. Therefore, the joints, as well as the tiles, should be given importance in the design. From a designer's point of view, the limitations of a material are its greatest asset, each material requiring its own peculiar treatment.

Not many years ago, all the tiles that were available for floors were of the machine-made variety, so perfect in workmanship that they could be laid in a floor with joints of a hair's breadth.

Conditions have since changed, and we have come to realize the value of the joints. It is seldom necessary to lay a floor of plain tiles with joints less than one-quarter of an inch in width. Whether these joints are left the natural color of cement, or are colored, they will always count in the design, and the slight unevenness of the tiles themselves will give a texture that is not as hard and uninteresting as the floors of mechanical perfection.

The character of the building and the location of furniture and rugs affect the design of the floor. If the floor is an important room of a monumental building and is free from large pieces of furniture, it may well be treated so as to be in accord with the architectural treatment of the walls, but if there is to be much furniture and many rugs on the floor it is better treated as a whole. This is a point that is often lost sight of in railway waiting rooms and restaurants.

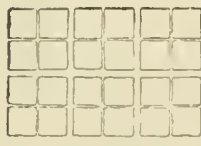
Church floors afford as great an opportunity for tile work as the windows do for stained glass. Much could be said on this subject alone, but it is sufficient here to make the following observation: The nave aisles should be simple, the choir somewhat more elaborate, and the sanctuary very rich in pattern, symbols and color. In short, the elaboration increases as the altar is approached.

It is not necessary to use large tiles in a large room to get scale, as the tiles can be arranged so that the unit is composed of several small tiles, and the scale of the pattern increased or reduced at will.

It is not essential that all the tiles

laid in a floor come from one factory. Herein has the tile setter great advantage, especially in colored tiles. In the matter of shapes and designs, clay is so easily moulded that there is almost no limit to the variety that the smallest factory can produce. It is in the matter of glazes and quality that manufacturers differ.

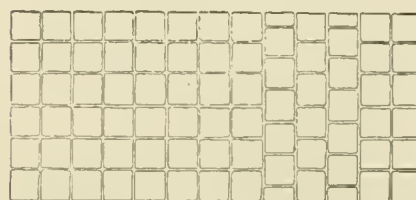
There are many patterns that have



By groups of four squares as a unit separated by wider joints, the scale is increased



A diagonal pattern of square tiles is emphasized by a border



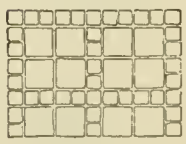
By a few rows of broken joints, an effect of border is produced in a field of square tiles.



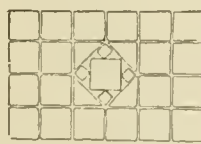
When the small squares are less than one-quarter of the area of the large squares, the pattern runs off at the side



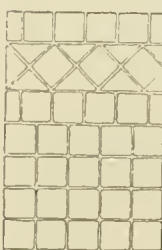
When the small squares are one-quarter of the area of the large squares, the pattern has more repose



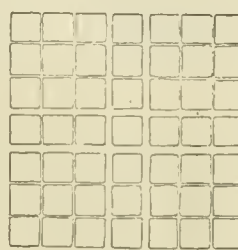
Another way to increase the scale with small tiles



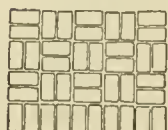
A decorative pattern that can be made on the job



By breaking joints in one course, the border is made wide



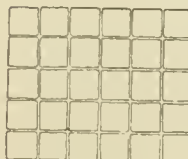
An arrangement adapted to large rooms



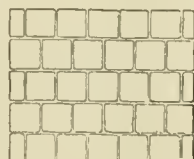
When double squares are laid "basket pattern," the necessary allowance for joints adds interest



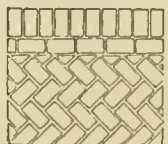
A good pattern for corridors.



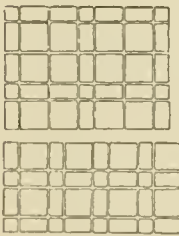
The simplest floor of square tiles is interesting if the joints are in scale.



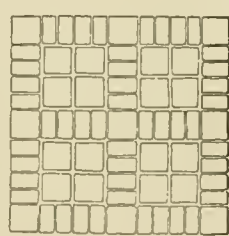
When square tiles are laid with broken joints, long lines in one direction are the result.



Varieties of "herringbone"



Two combinations suggesting plaids.



A simple device for a panel or a floor for a large room.

been common property ever since the beginning of tile making, and are to be found, with slight variations, in many tile manufacturers' lists. New designs can be readily produced and old ones revived; the process is simply a model in clay or wax, from which a plaster mould is made, then the clay pressed in by hand, removed from the mould, dried and baked; a simple process, to which tiles owe much of their charm. The difficulties are in composition of the clay and glazes; these, of course, it is assumed,

have been overcome by the manufacturer.

The ideal method of designing a floor is to arrange a general scheme and then lay out the details on the job, changing and rearranging as occasion arises. This, of course, requires an artist as a workman—and there are such—or constant supervision. This is not always possible, but when it is done, the result is spontaneous, and free from the mechani-

cal look that might come from a hard and fast plan laid on the drawing board.

By the use of color in pattern, and pattern in individual tiles, there is almost no limit to the richness and elaboration possible for tile floors, but on the other hand, it is also possible to make an interesting floor of plain tiles in one color by taking advantage of the joints.

The diagrams will serve as reminders that the joints are of equal importance with the tiles.

How to Build a Septic Tank

Principles of Its Actions—Sizes and Dimensions Adapted to Residence Sewage Disposal—Detailed Method of Construction

While the septic tank is rapidly driving out of existence the old types of cesspool and other unsanitary and disease-breeding forms of sewage-collecting vats and pits, but very few people understand the principle upon which the action of the septic tank depends. A great many have the idea that in order to start the action in a septic tank, some kind of material or some particular brand of germs or bacteria must be placed in the first batch of sewage allowed to enter the tank. This, however, is not the case, as will be shown.

What a Septic Tank Is

A septic tank consists of a water-

shown in Figs. 1 to 3. This siphon works intermittently, depending on the depth of the liquid in the second compartment. The pressure from the liquid on top of the bell of the siphon automatically regulates the periodic discharge of liquid into the drains leading to the beds for final disposal.

Working Principle of the Septic Tank. The action of the septic tank is based upon the fact that in nature organic matter is broken down into inorganic compounds by certain types of bacteria. These bacteria are very small vegetable organisms which are widely distributed. They are found in air, water, and soil, as well as in the bodies of living animals and plants and

From the above, it may be seen that the septic tank is a laboratory in which a great number of busy little chemists are changing foul materials into comparatively clean and unobjectionable ones.

If we trace a quantity of sewage from the time it leaves a residence until it reaches its final destination, we shall find that it arrives in the tank in nearly the same condition as when it started from the house, except that possibly a small part of the oxygen has been removed by the aerobic bacteria in the drain-pipe. When the sewage passes into the tank, the heavier parts sink to the bottom; while the lighter parts rise to the top

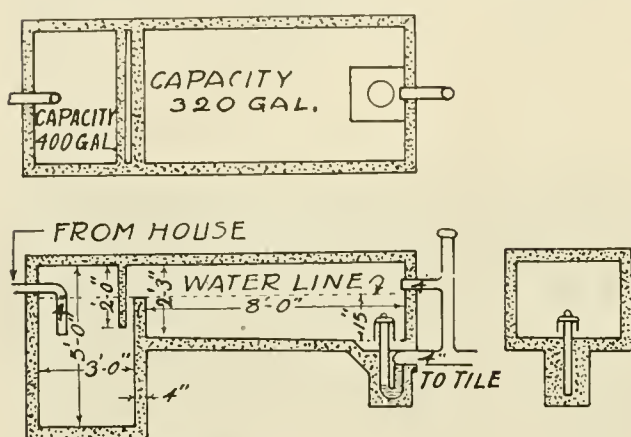


Fig. 1. Concrete Septic Tank for Use in Level Ground.

tight underground enclosure used for the storage and purification of sewage. The enclosure is usually constructed of concrete or brick, but may be made of large glazed drain-tile bedded in concrete, or even from empty barrels. Often, in small work, an enclosure consisting of a single chamber is used, but tanks for the ordinary residence consist of two chambers. Larger tanks have even three or more chambers. Figs. 1 to 3 show different types of two-chamber tanks.

In the two-chamber tank ordinarily used, the sewage enters the first chamber through a curved pipe which extends below the normal water level of this chamber. This first compartment is provided with a tight-fitting cover that keeps out the light, air, and falling materials which would otherwise disturb the scum that forms on the surface of the liquid in this chamber.

The first compartment is closed off from the second by a wall, as shown in Fig. 2, or by a water seal, as shown in Fig. 1. Connection between the two chambers exists through the bent pipe of Fig. 2, or through the narrow passage shown in Fig. 1. This second chamber is well ventilated. It also contains a connection which allows the discharge from the tank to pass out into a line of drain-tile connecting with a running stream or with the beds in which the last part of the purification process takes place.

The connection between the second compartment and the drain usually consists of an automatic siphon, as

in products derived from them. These bacteria are so small that a single drop of fluid may contain thousands of them.

In starting a septic tank, the first sewage to come into the tank is seeded with bacteria from the air, water, or soil. This army of little workers is divided into different classes, each class having its own special function. One class of bacteria is known as *aerobic*, and lives only in the presence of free air or oxygen. Another class is called *anaerobic*, since it thrives only in the absence of air or oxygen. A third class is known as *facultative*, since bacteria of this class can live either in the presence of air or without air, as the case may be. Each one of these classes has its own work to perform in the purification of sewage. The aerobic bacteria prepare the way for the anaerobic army by using the supply of oxygen which exists in the sewage as it comes into the tank. It is bacteria of this class also which finish the work of purification when the sewage has passed through the tank and reached the beds where the effluent or discharge is finally deposited. The anaerobic bacteria, though comparatively few in number, are very active, and bring about the reduction or breaking-up of solid matter which settles to the bottom of the tank.

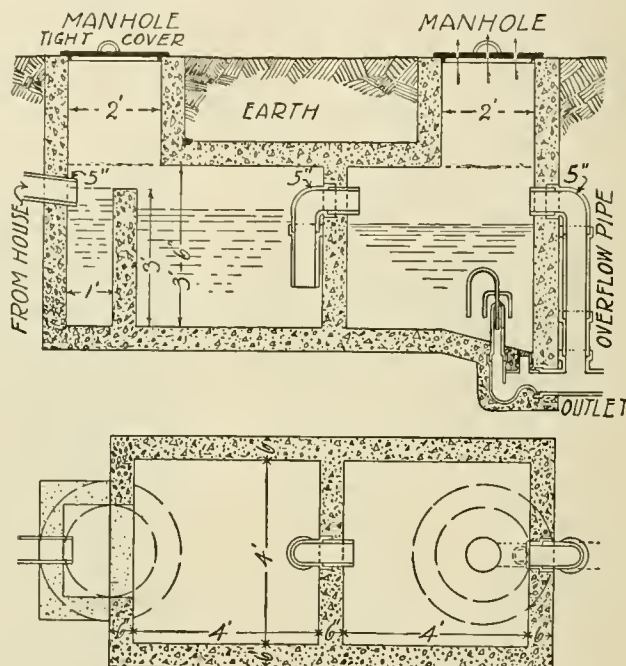


Fig. 2. Septic Tank with Separate Settling Chamber.

of the first chamber of the tank, there forming a thick scum. This scum is the workshop of the aerobic bacteria, and also serves as a cover, shutting off light and air and thus protecting the active anaerobic bacteria who are at work on the solid material in the interior and at the bottom of the tank.

The aerobic bacteria at once set to work on the scum and those parts of the sewage which are exposed to the air, or on new sewage containing oxygen, and, by a putrefactive and fermentative process, change this part of the sewage to a liquid which contains no oxygen. After the incoming sewage is deprived of its oxygen, the anaerobic bacteria begin work on the solid material in the interior and bottom of the tank, and change it into material which is again to be acted on by the aerobic bacteria at the surface or at a later stage.

When a new charge of sewage enters the tank, a part of that which has been acted on by the bacteria escapes to another chamber of the tank. The pipe or passage which takes this treated sewage from the first tank to the second, is so arranged that the quan-

tity of sewage passing out of the first tank is taken from that part of the tank midway between the scum at the top and the sediment at the bottom.

The partially purified sewage in the second chamber is removed at intervals by means of a hand-operated plug or an automatic siphon connected to the drain-pipe used to conduct the liquid away from the tank. The final

about six persons. This tank is designed on the basis that each person will use on an average about 70 gallons of water each 24 hours. The first chamber holds about 400 gallons of sewage below the water line, and is 3 feet long, 4½ feet wide, and 5 feet high, inside dimensions. The second compartment is of the same width as the first, but is 8 feet long and 2 feet

a flat bottom with all parts at the same level, as shown in Figs. 2 and 3; but the tank of Fig. 1 is more serviceable in ground that has but little fall, since it permits laying the drainage tile which receives the discharge nearer the surface of the ground than is possible in the tanks of Figs. 2 and 3.

In locating a septic tank, two conditions are to be noted: First, the

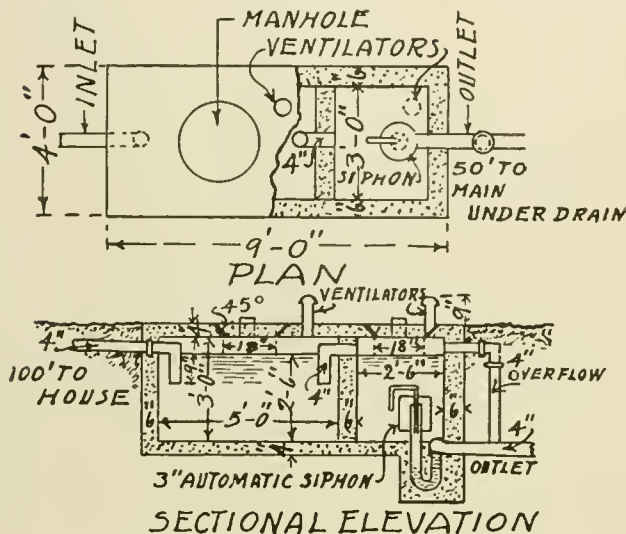


Fig. 3. Septic Tank for Use in Sloping Ground.

step in the process of purification is completed by allowing the liquid, which is without oxygen, to flow out into a porous, air-filled bed of material to become thoroughly charged again with oxygen and acted upon once more by the aerobic bacteria in this bed. The result of this last action is the changing of the effluent into clear, practically pure and harmless liquid.

Sizes and Dimensions of Septic Tanks

The required size or capacity of a septic tank will depend upon the quantity of sewage which it is to receive daily. Large tanks for service in a community should be treated as special problems, and their design should be handled by an engineer who makes a specialty of this class of work.

Smaller tanks for private use may be built along the lines shown in Figs. 1 to 4. At least two compartments are necessary for satisfactory service—one for receiving the sewage and liquefying it as above explained, and the other to serve as a storage or discharge chamber in which the automatic siphon is placed.

The capacity of the first chamber should be sufficient to hold from 24 to 36 hours' flow of sewage. The second chamber should be of a size such that the automatic siphon may be adjusted so as to cause a discharge about every 12 hours. In arranging the size of this second chamber, accurate data should be obtained from manufacturers of siphons, regarding the discharge depths and capacities of siphons, so that the discharge chamber may be built of a proper size and depth to discharge the required quantity of effluent at stated intervals.

The tank shown in Fig. 1 is that recommended by Messrs. Ocock and Wright of the University of Wisconsin, and is suitable for a family of

3 inches high, and holds about 320 gallons to water line.

The sewer pipe enters the first compartment so that it is well above the natural water line of the tank. In Fig. 1 the center of the inlet pipe is about 8 inches down from the bottom of the cover. The inlet and outlet pipes are both 4 inches in diameter; also the vent and overflow pipe shown at the extreme right of the second chamber and connecting with the chamber and the drain-pipe.

The walls and cover of the tank are composed of Portland cement concrete mixed in the proportion of 1 part Portland cement, 2 parts clean, well-graded sand, and 4 parts crushed stone or screened gravel. The thickness of all concrete is 4 inches; and the top is well reinforced by using ¼-inch steel rods laid crosswise of the tank about 1 inch up from bottom of slab, and spaced 4 inches apart.

Removable slabs are shown as a part of the top, one or two located over each compartment. These slabs are reinforced similar to the other parts of the cover, and are also provided with iron or steel handles cast into the concrete at each end of the slab, so that they may be lifted off for cleaning out the compartments of the tank. The automatic siphon is shown located near the exit from the second chamber, and connected to the drain-tile at the bottom of this chamber.

The tanks shown in Fig. 1 will require about 5½ barrels of Portland cement, 2 yards of sand, and 3 cubic yards of crushed stone or screened gravel. About 200 feet of ¼-inch rod will be needed in the top, especially where the ends of the rods are bent into loops to aid in their holding power.

The type of tank shown in Fig. 1 is no more efficient than a tank having

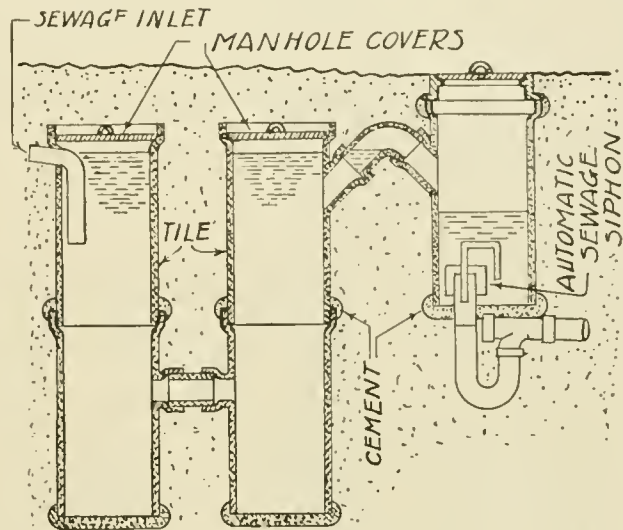


Fig. 4. A Sewer-Tile Septic Tank for Use with Small Residence..

distance which the tank is to be placed from the house; the second, the depth of the tank in the ground. It is well to have the tank between 100 and 200 feet from a residence if possible, on account of the discharge beds which are used in connection with the tank. This, however, is not always a necessity; and in many cases the tank may be placed close to the cellar walls of the residence, and the discharge carried some distance away to the beds. A slight odor more or less offensive may be noticed for the first four weeks or so, in the case of a new tank just started; but this will soon disappear.

The depth of the tank in the ground will depend on the natural slope of the land and the size of the lot in which the tank is placed. The inlet or sewer pipe should always be placed deep enough so that it will not freeze in winter. This pipe should have a slope of about 1 foot in 100 feet, and should be laid with cemented joints. A vitrified clay pipe or a cement pipe of a very dense nature may be used in this location.

If the lot is small and there is danger of the sewer pipe from the house freezing, the tank may have to be built close up to the cellar wall of the house. It should be noted from the illustrations, that it is practically impossible to install basement laundry tubs in connection with a system of this kind in level ground, on account of the depth to which the tank would have to descend and the resulting unsatisfactory action of the beds which are to receive the discharge.

The septic tank shown in Fig. 2 is also proportioned for service in residence work where the family consists of six or seven persons. This tank is sunk in the ground, and is entered through the two circular manholes at the top. The part of the tank at the

extreme left acts as a basin for catching the heavier parts of the sewage and keeping them out of the larger first compartment. The two compartments in this tank are on the same level, making it necessary that the land slope away from the discharge end of the tank, in order that the discharge pipes may not be too far underground, as will be explained later. Where the slope will not permit, the tank may be raised nearer the surface and built along the same general principles.

Fig. 3 shows a similar type of tank designed by W. C. Davidson of the Missouri Engineering Experiment Station and proportioned to suit the needs of the average small residence or farm house. The dimensions given in the illustration are sufficiently clear for all practical purposes.

In all concrete tanks of the types described above, it is well to reinforce the corners of the tank with $\frac{1}{2}$ -inch steel bars, bent with the ends at right

be remembered that the sewage has not received its final treatment by the aerobic bacteria at the time it is discharged by the siphon into the drain-pipe, and has not become thoroughly purified.

Ordinarily a tightly laid line of 4-inch diameter drain-tile takes the effluent in its partly purified condition, and distributes it into some form of drainage system similar to that shown in Fig. 5. This system consists of 4-inch tile spaced $\frac{1}{4}$ inch apart, and laid in branching lines not deeper than 14 to 16 inches from the surface of the soil to the top of the tile. This plan is for light, sandy, porous soils; but in the case of heavy soils, the tile should be surrounded by gravel or cinders, as shown

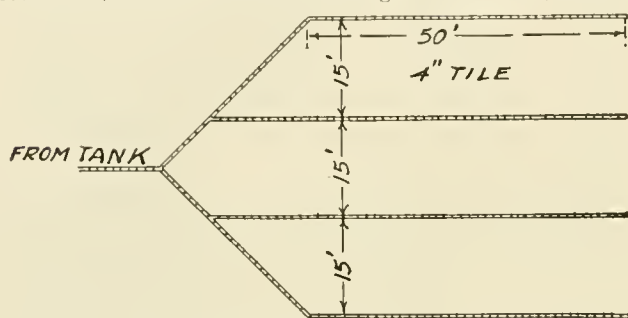


Fig. 5. Drainage Plan for Distribution of Discharge from Septic Tank.

angles, and spaced from 6 to 8 inches apart. This rule will apply at all places where two flat surfaces meet. Often No. 9 woven wire fencing is used in place of the bars.

After the forms have been removed from the inside of a concrete tank, the inside surface should be plastered with a good coat of Portland cement mortar about $\frac{1}{2}$ inch thick, consisting of 1 part Portland cement and 2 parts sand. After this coat has hardened, the entire interior surface of the tank should be painted with a coating of neat cement and water mixed to about the consistency of thick cream. A stiff whitewash brush may be used for this purpose. This plaster and wash treatment makes the interior of the tank water-tight.

A simple type of septic tank is shown in Fig. 4. This tank is made from ordinary glazed sewer pipe of 24 inches diameter or larger, and from standard fittings used in connection with this size of pipe. The tile are bedded and jointed in cement mortar, and may be fitted with cast iron manhole rings and covers; or cement mortar manhole rings and covering slabs may be used.

The action in this case is the same as in the tanks already described; but a tank of this sort should be used only for small families. The inlets and discharge pipes should be about 4 inches in diameter.

When a creek or running stream is near at hand, the discharge pipe is often led directly to this source of removal; but care should be taken that this water is not used for domestic purposes or in pastures at some location farther down stream. It must

in Fig. 6, and the top of the trench covered with the original soil.

It must be remembered that the effluent which comes into these tiles is entirely without oxygen, and that its reduction by the aerobic bacteria which exist in the top soil requires contact with air so that it may take up oxygen again. Hence the necessity for burying the drain but a short distance from the surface of the ground, and the need of porosity in the surrounding soil.

The tile must be periodically filled with sewage from the discharge chamber of the tank, thus allowing intervals of rest between charges, during which the soil or material surrounding the tile may again take up oxygen for the next supply. This periodic action is furnished either by the siphon shown or by the hand-operated plug referred to.

The capacity of the drainage system should be nearly equal to the volume of effluent discharge from the tank at any one time, so that all the system will be filled, and emptied, at the same time.

If there is an excess of water passing through the septic tank, it may be necessary to lay an under-drain surrounded by crushed stone or gravel in connection with the drainage scheme shown in Fig. 5. This will not interfere with the action or location of the tile shown in Fig. 6; but will require an increase in the depth of the trench, and another line of 4-inch tile laid in the stone about 8 inches below the first line. This lower line of tile is not connected in any way to the discharge chamber of the tank, and merely serves to remove the

surplus water. The purifying process takes place in the upper pipe and surrounding soil as usual.

The drainage tile should be laid on a slope not to exceed 1 inch fall and 50 feet of length, and should not extend into low land where the natural ground-water level will interfere with the absorption from the soil surrounding the tile lines.

One foot of 4-inch tile should be used for each gallon of liquid discharge into the drains, if in porous soils. In heavy soils, it may be nec-

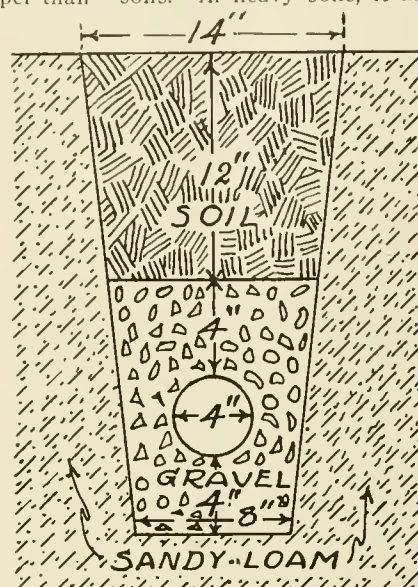


Fig. 6. Cross-Section of Drainage Ditch in Distribution System.

essary to use 2 feet of tile per gallon of liquid. It is claimed that from 325 to 400 tiles are needed, when laid in gravel or cinders, for a family of six.

Grease Traps. Grease from kitchen sinks should not be allowed to enter the septic tank with other material. The grease is not changed to any appreciable extent by the bacteria, and in time will clog up the system.

Effects of Frost. We have already mentioned that the sewer pipe from the house to the tank must be buried deep enough so that it will not freeze. There is no danger of the material in the septic tank freezing, since the contents are kept warm by warm water entering from the house and by the heat given off by the action of the bacteria. The temperature at which bacterial action is most active ranges from 75 to 105 deg. Fahrenheit, but the winter temperatures reduce the action to quite an extent. For this reason it is well to bury the tank as far as possible and still maintain other conditions, or to cover it with earth as a protection. Even in very cold climates, the absorption system of drain-tiles which are buried in loose soil or gravel-filled trenches will work in a very satisfactory manner.

Cleaning Out

If a two-chamber tank is used so that the scum on the surface of the liquid in the first chamber is not disturbed by filling or emptying the tank in its ordinary method of working, there is no need of cleaning out the sludge at the bottom of the tank oftener than once a year. It is not policy to disturb the scum covering any more frequently than actually

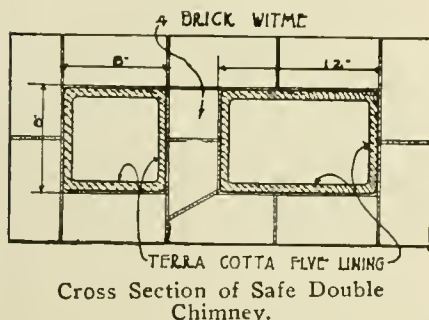
necessary, since it takes some time to get the tank back into working condition. The openings left at the top of the tank should be large enough to afford access to both chambers of the tank as occasion may require.

Need of Water Supply

The septic tank is of best service when some kind of supply of running water is piped into a residence; but this is not absolutely necessary. A good supply of running water may be obtained at a country residence by the use of a hydraulic ram, gasoline engine, windmill, or hand pump, and a storage tank either outside or inside the house. If a windmill or engine is used, some form of automatic shut-off should be installed, so that no attention need be given to the system after it is started.

How to Build Safe Chimneys and Fireplaces

The safest chimney, and the only kind which the best building laws allow, is of hard-burned brick not less than 8 inches thick, with continuous smoke flues of hard-burned clay or terra cotta pipe, the sections smoothly fitted together with the cemented joints struck smooth, and built into the flue as this is carried up. The only 4-inch brickwork in such a chim-



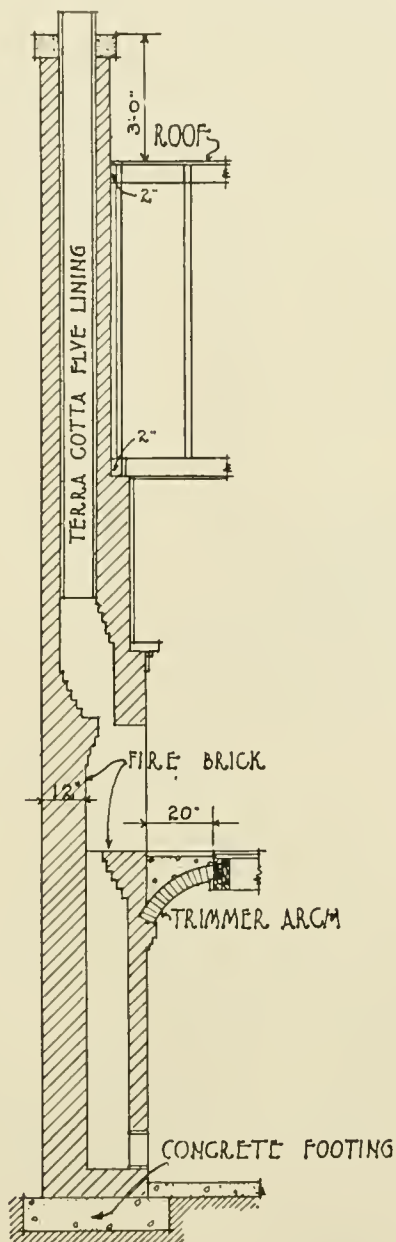
ney are the withes or partitions between the tile flues inside the chimney.

No smoke flue should be smaller than 8 by 8 inches, and those for a furnace, fireplace, or large stoves will need to be 8 by 12, or greater capacity, inside measurements.

If a chimney is built without a flue lining, it must not be of less than 8 inches thickness of brickwork, the joints filled solid with mortar to be struck smooth on the inside, which insures care in laying, and avoids rough projections of mortar on which soot will accumulate to finally cause a fire inside and high up in the chimney. Parging or lining a chimney with mortar to make a smooth flue is a bad practice and not to be compared with the treatment recommended in the preceding sentence, because it is apt to be relied upon to fill up joints in carelessly laid brickwork, and when pieces crack off, the crevices of the brickwork which thus lose their protection transmit sparks and a fire results, and the fallen pieces may stop up the flue and prevent good draught.

Every chimney should rest upon a suitable foundation in the ground or on ample brick piers, which is practically the same thing. If a chimney cannot be supported directly from the ground, it should never be supported

by wood, but by brick, stone, or iron of ample strength to prevent settling; and if in a brick wall, should never be corbeled out more than 8 inches, the corbeling to consist of at least five courses of brick. It is dangerous to set a chimney on wood, because wood



shrinks and the chimney settles unevenly and cracks and because the warmth may char the wood.

A chimney should be straight and perpendicular. It should be so located in the first place that it will not be necessary to offset it, principally because the unequal amount of settling of chimney and houseframing may bring timbers into contact with shoulders of the chimney to cause strains which may crack it. This is especially the case when the chimney is built with an enlargement just above the roof, where the greater settling of the chimney causes a dangerous crack just at the roof.

Wooden mantels should not be used without the greatest care to get all

parts of them far enough away from the fire; and where heaters are set in fireplaces the mantel is more apt to be exposed because the heater projects. Therefore, mantels should be incombustible.

It is not uncommon to see a wooden mantel dangerously exposed by a gas-log which is often used in a false fireplace which never was intended for a fire of any kind.

To protect the contents of the room from sparks out of the fireplace, the opening should always be completely protected by a screen.

Every chimney should be carried three feet higher than adjacent roofs, both for better draughts and to lessen the chance of fire from sparks when such roofs are of shingles.

Although a clay or terra cotta flue makes a good lining for a brick chimney, it is not safe to use such a flue alone, for the material is thin and gets hot enough to char wood and is quite apt to crack. An iron-pipe flue is very objectionable, for it becomes hot and rusts out. Such chimneys as these are seldom found in a dwelling except an inexpensive camp or beach cottage; their use is always dangerous.

No wooden beams or joists should enter the brickwork of any chimney or flue of any sort, but should be supported on a header the face of which is not less than 2 inches from the outside of the flue and the trimmer beams four inches.

A header supporting floor beams in front of a fireplace, carrying the trimmer arch on which the hearth is laid, should not be less than 20 inches from the outside of the fireplace flue, for in this case the hearth itself is heated for a considerable distance by the open fire, and requires to be at least 20 inches wide to be safe.

Such a hearth must be the full width of the fireplace and be of brick, stone, burnt clay, or concrete, supported on a brick arch—in a word, fire-proof. The arch is built on wooden centering, and particular care should be taken to remove it, for it is likely to be hidden by a ceiling and forgotten. If it is left in place, the heat of the hearth may ultimately cause it to take fire.

The back of the fireplace must be of at least 8 inches thickness of brickwork, better 12, and if a grate is set, the 8-inch brick wall needs a facing of fire-bricks or stone, iron, or other equivalent additional protection, as the heat is longer sustained and hotter.

Nailing Guides on Stair Stringers

While housing stair stringers, drive a nail through the stringer, from the housed side, in the center of the tread and near the front edge and in the center of the riser and near the top. Pull the nail out and the hole will mark the centers of the treads and risers on the back of the stringer and be good guides for nailing when putting the stairs together.

In planing end grain never run the plane entirely across the end, but work from both edges toward the center of the piece. This prevents the splitting of corners.

How to Make a Blue Print Frame

The blue print frame, the drawing of which is shown in the accompanying illustration is of good size for small prints. The same construction may be used and the frame made larger if desired, of course. The backing should be light and may be made of white pine. The frame proper should be strong and may be made of some hard wood such as maple or birch. The hardware, such as hinges and lifts, may be got at any hardware store. The brass springs and clips may have to be made by the amateur himself. In addition to these things there will need to be a glass of good

Facings, 2 pieces, $\frac{3}{8}$ by 1 by 18 inches, S-4-S.

Facings, 2 pieces, $\frac{3}{8}$ by 1 by 13 inches, S-4-S.

Backing, 4 pieces, $\frac{1}{2}$ by $1\frac{1}{4}$ by $8\frac{1}{4}$ inches, S-2-S. Pine.

Backing, 2 pieces, $\frac{1}{2}$ by $8\frac{1}{4}$ by 11 inches, S-2-S. Pine.

Begin the work by sawing the pieces for the main frame length, or rather almost to length. Allow about $\frac{1}{8}$ inch for smoothing off after the joints have been glued. Lay off the required distance between the shoulder lines and then work the box dovetails. Rabbet the

pared. These are specified the correct thickness and width so that all that is necessary is to lay out and work a quarter of an inch chamfer upon the one arris and then miter and fit them to the main frame. These facings are to be attached to the main frame by means of flat headed screws.

The backing is composed of two parts hinged together. This hinging and the double springs make it possible for the operator to take a look at his prints, or rather at one half of the prints, without disturbing the relative position of paper and tracing. Each end of each of these two parts should be reinforced by tonguing and grooving cleats thereon.

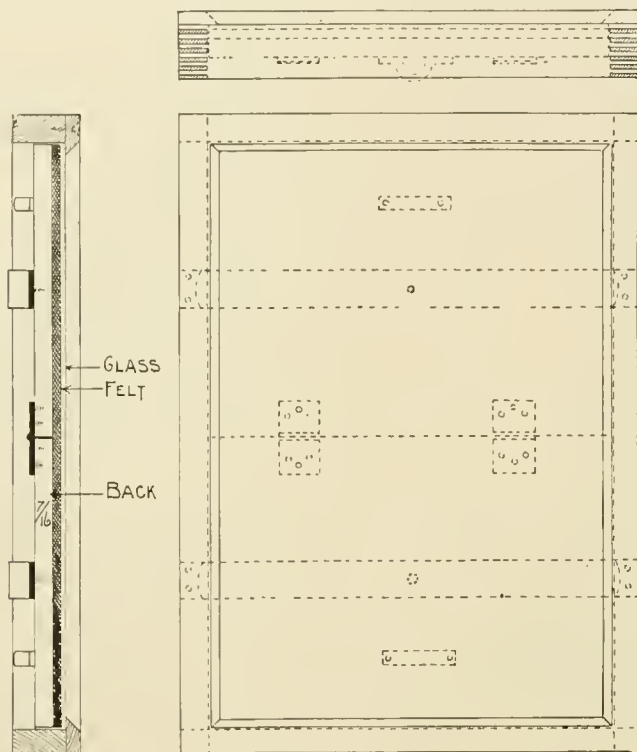
Several coats of shellac will give a suitable finish to this piece of work. The placing of the hinges and lifts and springs is indicated clearly in the photograph and drawing.

Importance of Using Good Saws

When you feel tempted to buy a hand saw simply because it's cheap and your hardware dealer is making a bargain sale of it, don't, unless it is your intention to give it to your boy or take it along for some laborer or rough-head to use. There is no bargain in that kind of a hand saw for a real workman—unless it happens to be one of those rare occasions when something really good is being sold at a bargain price, and you know it.

In the first place, no saw but the best is fit for a good carpenter to spend his time using, and there are a number of other reasons. One is that it takes just as much time and pains to set and file a saw that won't hold edge long as it does a good one, and this kind of time is worth enough money that you can soon waste enough of it on a saw poor in metal or temper to buy a good one, one that will hold edge and give service after you have put it in order. Another potent reason is that it takes a good and true saw to make proper fitting joints, and you simply cannot afford to use any other kind if quality is any factor in your work.

So leave the bargain saws for the near-carpenter, and for the man who simply does a little tinkering around and can not appreciate a good tool.



SECTION

A BLUE PRINT FRAME.

strength, light plate, and also a pad of rather heavy soft felt of the same size as the glass.

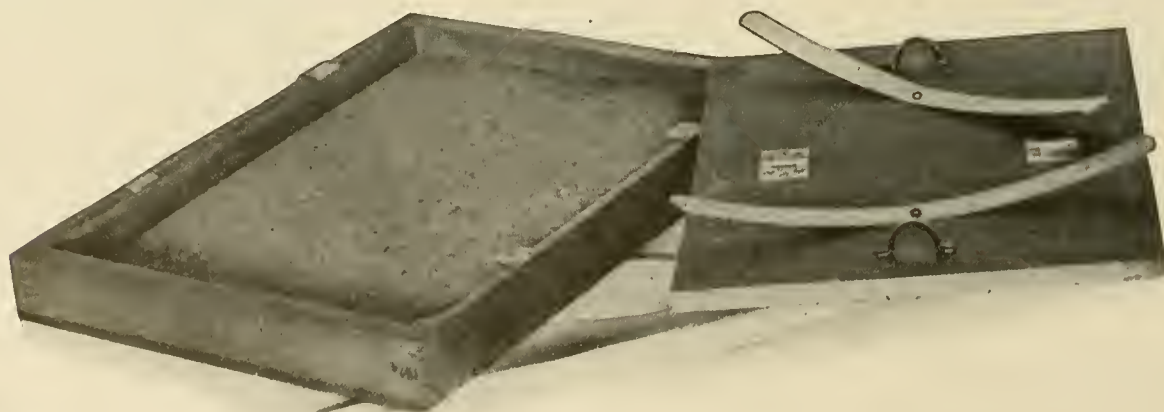
STOCK BILL FOR BLUE PRINT FRAME.

Main frame, 2 pieces, $\frac{3}{4}$ by $1\frac{1}{2}$ by 18 inches, S-4-S.

Main frame, 2 pieces, $\frac{3}{4}$ by $1\frac{1}{2}$ by 13 inches, S-4-S.

inner back edges sufficiently to allow the ends of the brass springs to pass as indicated in the photograph. After this, these parts may be glued and assembled, care being taken to leave the frame square and out of wind.

While the glue is hardening upon these pieces the facings may be pre-



A Blue Printing Frame Built From Above Specifications.

The object of this chart is to give the names of various parts of a frame house. On account of the limited space, only one story and roof could be shown, but this does not matter much, as the second or third stories would be similar to the first.

To show as many of these various parts as possible, the house is arranged in a peculiar manner, parts being omitted here and there, while many parts are drawn larger than they should be so as to show them clearly.

The main body of the house toward the left, is the balloon-framed type, while the wing, toward the right, is of the braced-frame type.

The names of the various parts are as follows:

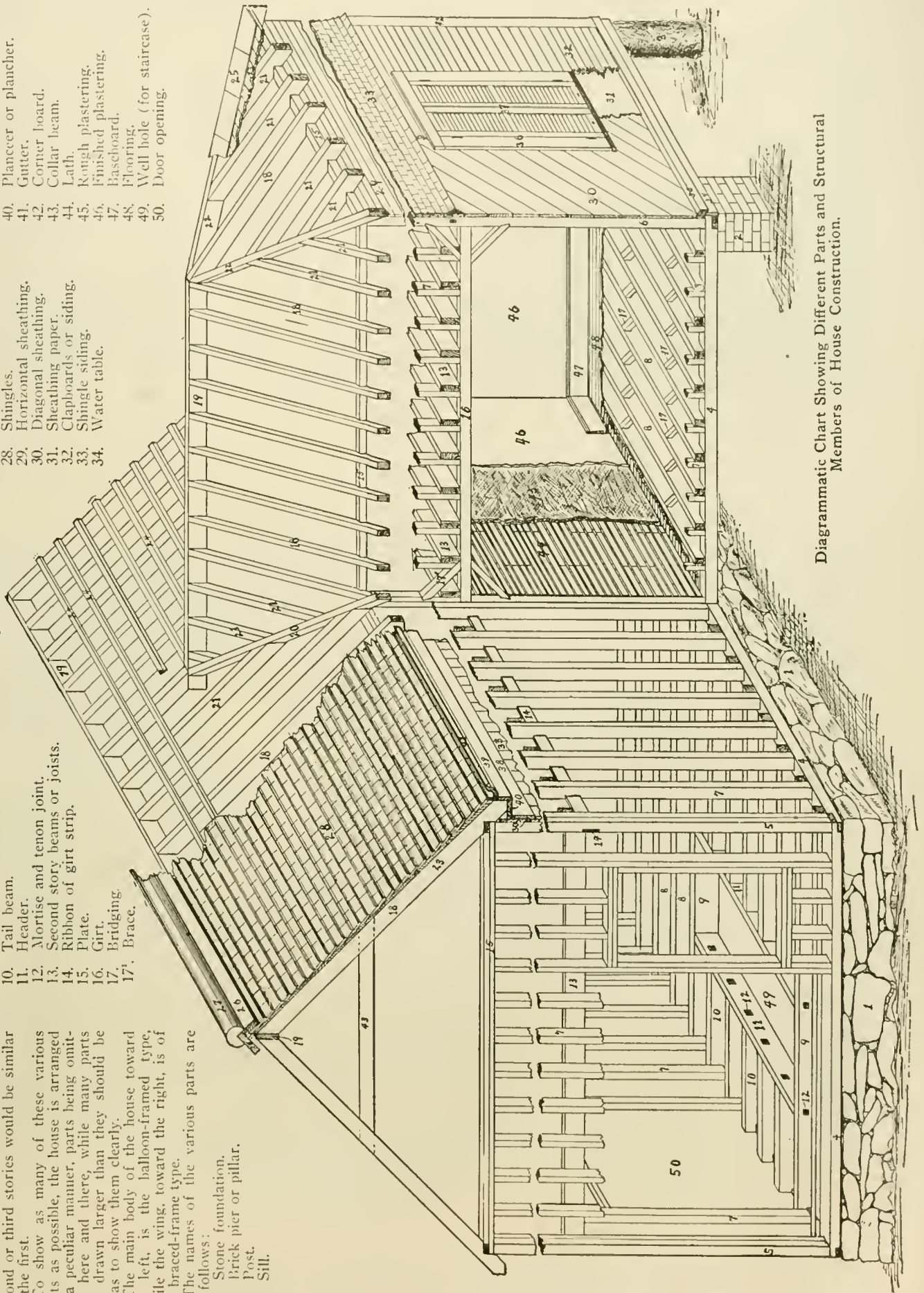
1. Stone foundation.
2. Brick pier or pillar.
3. Post.
4. Sill.

5. Corner post of balloon frame.
6. Corner post of braced frame.
7. Studding.
8. First story beams or joists.
9. Trimmer.
10. Tail beam.
11. Header.
12. Mortise and tenon joint.
13. Second story beams or joists.
14. Ribbon of girt strip.
15. Plate.
16. Girt.
17. Bridging.
17. Brace.

18. Common rafters.
19. Ridge.
20. Valley rafter.
21. Jack rafters.
22. Hip rafter.

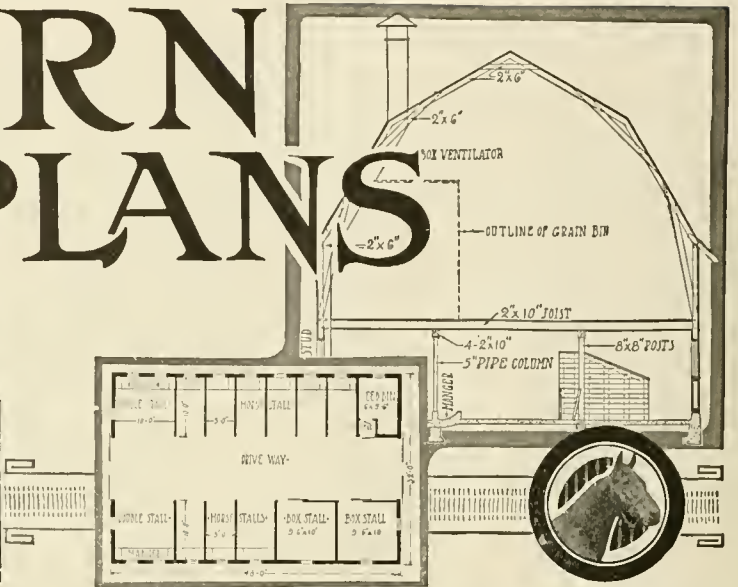
23. Roof sheathing.
24. Purlin or shingle lath.
25. Flashing.
26. Ridge board.
27. Ridge roll.
28. Shingles.
29. Horizontal sheathing.
30. Diagonal sheathing.
31. Sheathing paper.
32. Clapboards or siding.
33. Shingle siding.
34. Water table.

35. Pitched cap of water table.
36. Window frame.
37. Shutters or blinds.
38. Frieze.
39. Facia.
40. Plancher or placher.
41. Gutter.
42. Corner board.
43. Collar beam.
44. Lath.
45. Rough plastering.
46. Finished plastering.
47. Baseboard.
48. Flooring.
49. Well hole (for staircase).
50. Door opening.



Diagrammatic Chart Showing Different Parts and Structural Members of House Construction.

MODERN BARN PLANS



Combination Grain House, Corn Crib and Implement Shed

One building sometimes is required to answer several purposes on farms devoted to general farming. Such a build-

ing is shown in the perspective and plans of Design A315 shown on this page and the next.

The main part of this building, the corn crib and grain house proper, measures 32 x 26 feet. The implement

shed built at the side is 16 feet in width made the full length of the main building. Attaching the implement shed to the corn house saves building one side of the implement shed.

The outside studding are 2x6 inches,

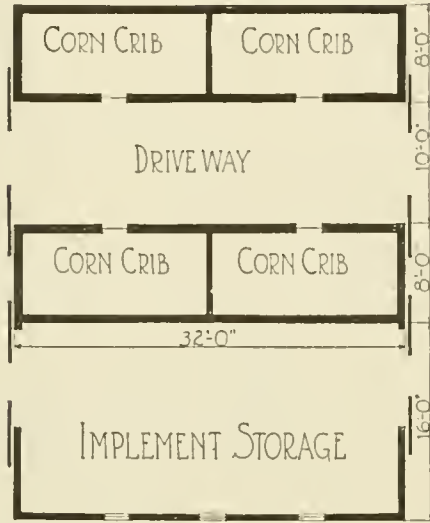


A Very Useful Farm Building Comprising a Two-Story Corn Crib and Granary, size 32 by 26 feet, and a one-story implement shed addition, size 32 by 16 feet. We can furnish complete set of blue-printed working plans and type-written specifications for only \$4.00 per set. When ordering, ask for Design No. A315 H.

eighteen feet long, placed 24 inches on centers. The inside studding are 2x8, and reach up and carry a light purlin which supports the roof. Two by eight studding is necessary in the center partitions to carry the load of grain, which may be heaped up clear to the peak.

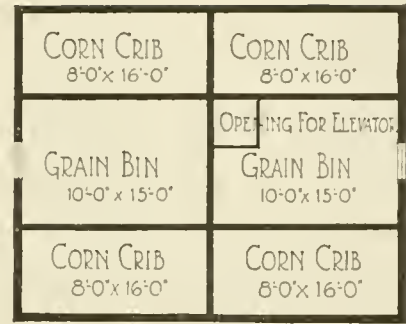
Modern farm elevators have made such grain houses possible. It is easy by means of horse power or gas engine power to put the grain to the top of this grain house—in fact, much easier than to shovel the grain into an ordinary barn bin by hand.

The corn crib sections are eight feet wide and are ventilated by using slats for siding. The corn cribs reach from the floor to the plates and extend on up the slope of the roof. The corn cribs as well as the grain bins are filled by a movable spout from the cupola at the center of the peak.



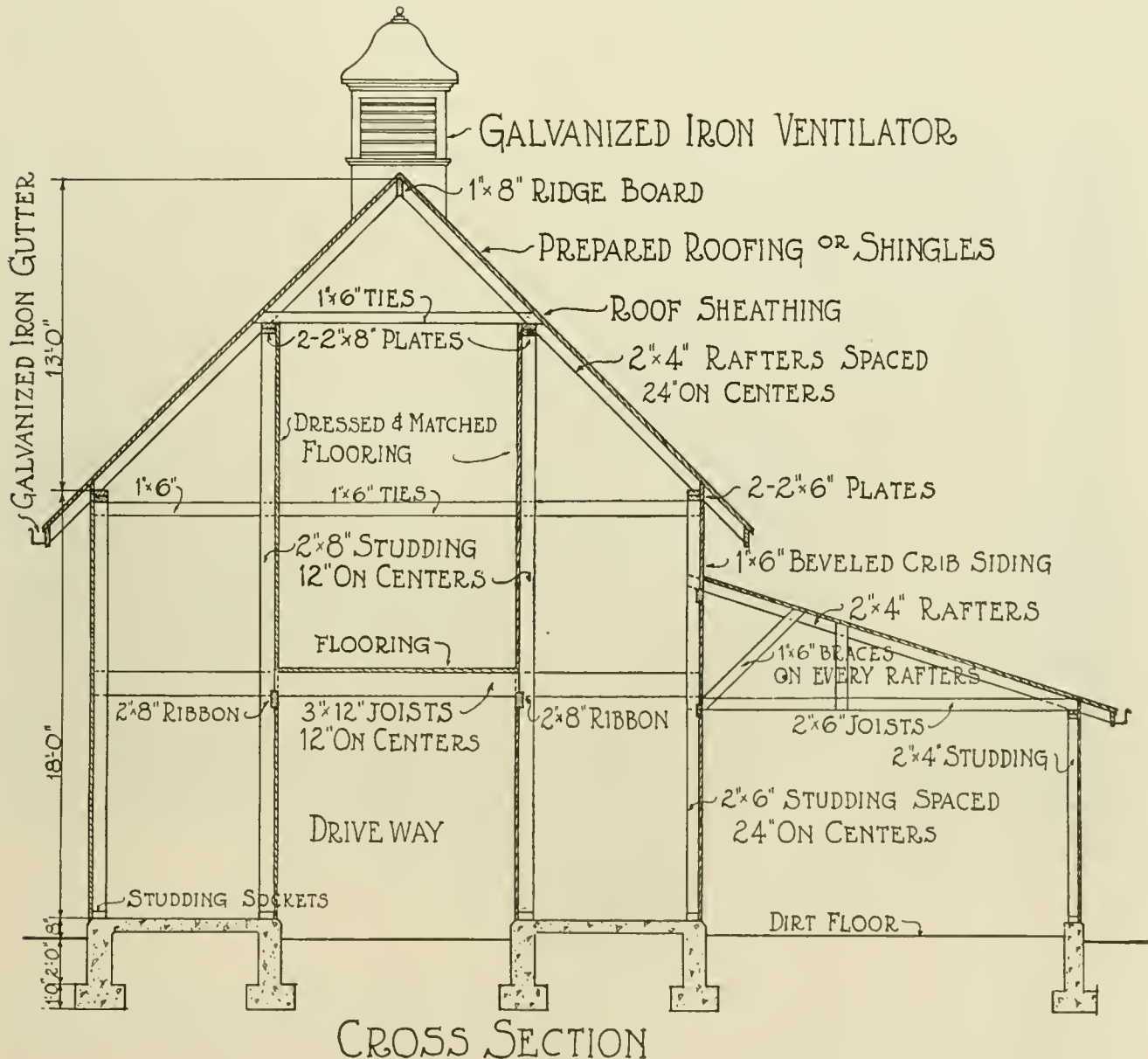
Ground Floor Plan.

The foundation wall is heavier under the grain house than under the imple-



Upper Floor Plan.

ment shed. The construction of the shed is as light as possible to make it dampproof and dustproof to house the farm implements and machinery under favorable conditions to preserve them from unnecessary depreciation. The floor of the implement shed may be made of concrete if desired the same as the floor in the grain house.



CROSS SECTION

Cross Section Through Combined Corn Crib, Grain House and Implement Storage Shed (Design No. A315 H) Illustrated on Opposite Page.

Small Convenient Farm Barn

A combination barn, 36 by 46 feet, built on the lines shown in the perspective and floor plan herewith, is a very convenient barn for the smaller farms. Also as an auxiliary barn on a large farm it is proving very popular.

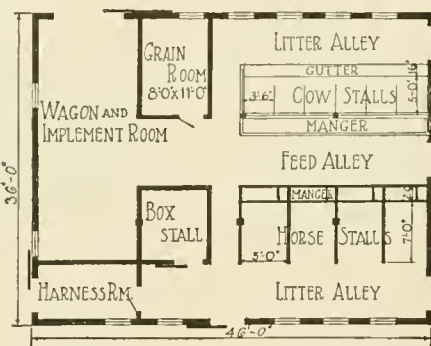
The foundation is thoroughly well done of concrete by putting the foundation walls down below frost. The floor is of concrete, the full size of the barn, and is level and finished smooth with the exception of the cow stable part. The cow stable floor includes the manger and gutter, which are all built together of concrete in the best approved manner.

The floor plan shows stabling for six cows in one corner of the barn, while the opposite side is given over to the horses. There is stabling for four horses, besides the box stall, which is intended for the stabling at times of any animal requiring individual attention.

There also is a small grain room

and a space for wagons or implements with a convenient doorway 10 feet wide.

Overhead is considerable storage for hay or other kinds of fodder. The mow is nearly 30 feet in height, measuring from the hay-mow floor, and this space is free from posts or crosswise timbers. Such a mow affords storage room that is appreciated at haying time on any well conducted farm.



Main Floor of Small Combination Barn.

This fine mow may be filled easily and quickly by means of a horse fork, which operates from the projection at the front end of the barn.

The hay carrier track is suspended from the short collar beams close up into the peak. The car is one of the new varieties that work so easily and freely that the old time horse fork troubles are forgotten. The car rolls out on the track projection, so the fork drops lightly onto the center of the load and the big forkfuls are lifted easily and quickly and noiselessly. The large upper doors are 12 feet in width and 16 feet in height, a size large enough to give free access to a large forkful of hay without knocking against the sides.

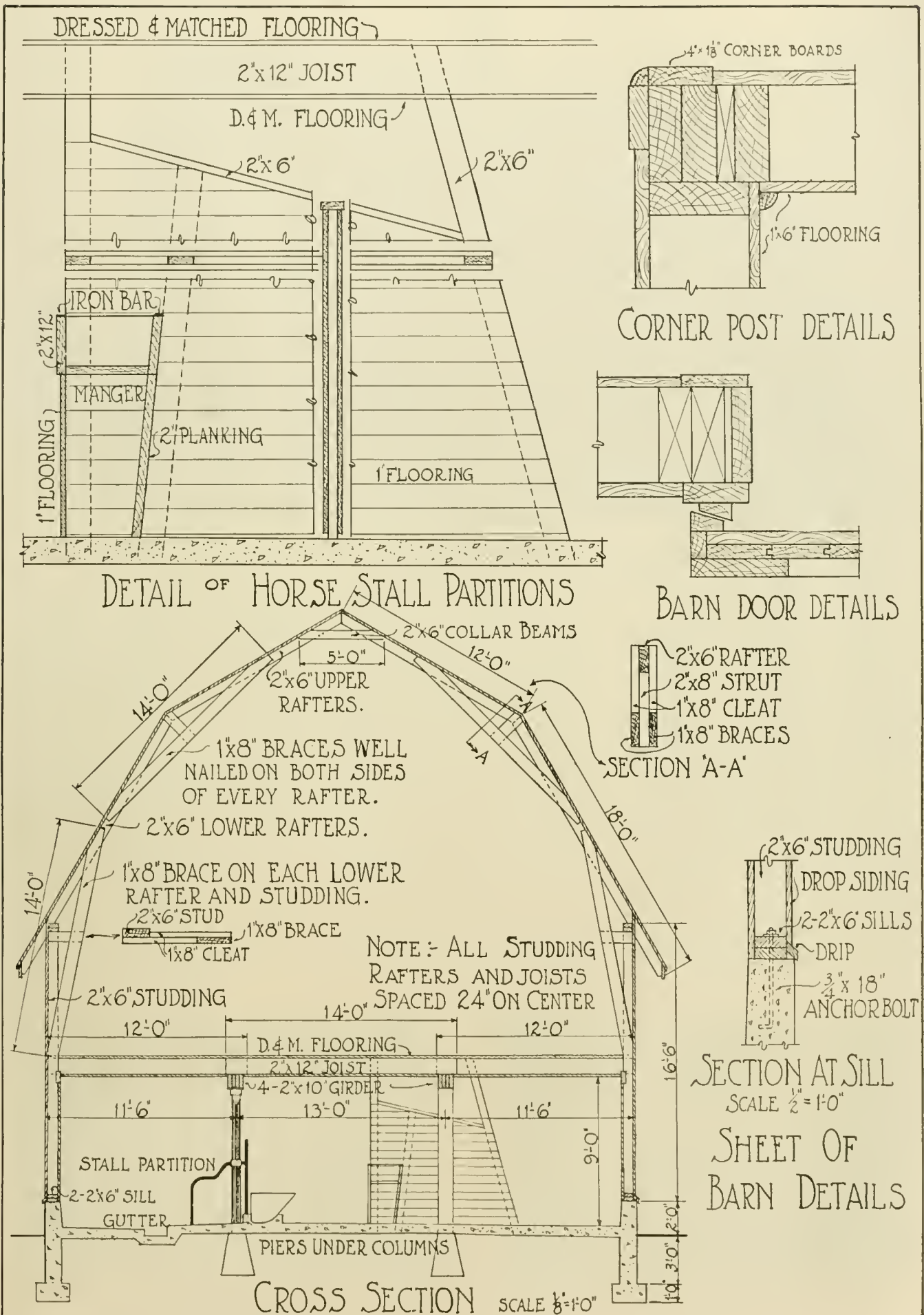
Also the door sill reaches down to admit forkfuls of hay with a lower hoist until the mow is well filled.

The round watering tank is made at the same time the foundation walls and stable floor are made, so the whole job is finished while the mixing tools are on the ground.



A Small, Inexpensive Barn, but well designed and well built. Ground floor has four horse stalls, six cow stalls, grain room and implement storage space. An ideal building for the small farm. We can furnish complete set of blue-printed working drawings and typewritten specifications for only \$6.00 per set. When ordering, ask for Design No. A294 H.

For Details of this Barn See Opposite Page



Construction Details of Small Farm Barn with Self-Supporting Gambrel Roof (Design No. A294 H) Shown on Opposite Page.



Modern Dairy Barn, 36 by 64 feet, well arranged for horses and cows. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. When ordering, ask for Design No. A341 H.

Iowa Farm Barn

A dairy barn, 36 feet in width by 64 feet in length, is shown in the design on this page.

It was built to hold dairy cows, young cattle and farm horses on the ground floor with large storage mow room for roughage above.

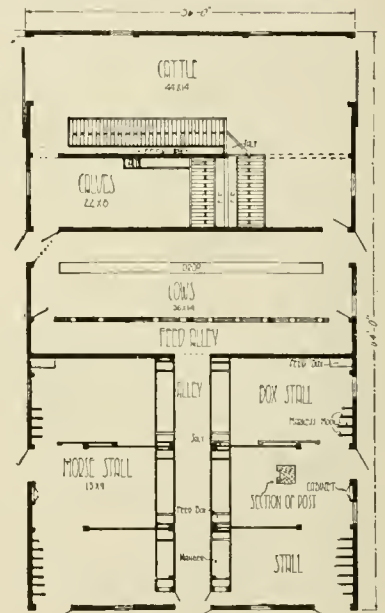
The foundation and floor are both made of concrete. Wooden partitions are built between the horse stalls and wooden stanchions are provided for ten cows in the dairy compartment. One end of the stable is arranged for young cattle and calves. This end is fitted with feed racks consisting of box mangers with slatted racks reaching from about 18 inches above the mangers to the stable ceiling. These racks are filled with hay

from the mow above through delivery chutes.

The calf department is divided off from the larger cattle and is provided with special feeding racks designed for convenience in doing scientific feeding to bring them along as fast as possible.

The horse end of the barn is divided into four double stalls and two box stalls, with mangers fronting a center feed alley.

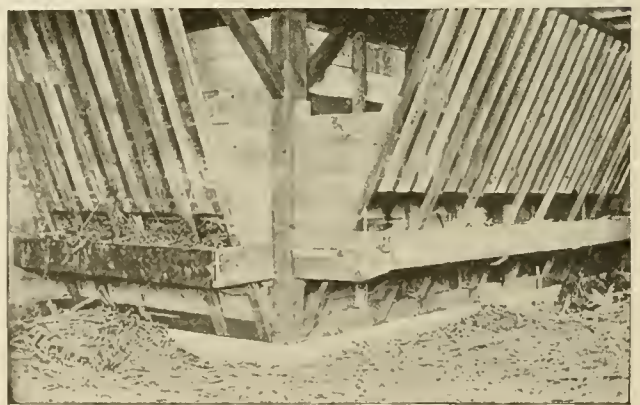
The design of the barn is rather unusual, but it fits into the general system of diversified farming that is practiced on a great many farms in Iowa—farms where a few dairy cows and a good many head of calves and young cattle are bred and raised to consume roughage and a good deal of grain grown on the farm.



Main Floor Plan.
Design A341 H.



Horse Stall Construction.



Self Feeding Racks.



Monitor Roof Stock Barn, 62 feet wide by 80 feet long. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. When ordering, ask for Design No. A303 H.

Monitor Roof Stock Barn

A beef cattle barn, 62 feet in width by 80 feet in length, is shown in Design A303 H.

Storage for roughage reaches from the concrete floor to the peak in the center of the barn and spreads over the floor of the wings over the cattle on both sides and at the far end.

The center part of the barn above the concrete foundation is built of upright posts, which reach to the plates and are braced in the usual

way. This construction permits easy moving of hay by rolling it down from the high center. Outside of the center area the barn is floored to make the stable warm and to extend the storage for straw or other roughage clear to the low roof at the sides. All hay and roughage is taken in by horse fork through the large hay door, or blown in by the stacker at threshing time.

By noting the size and width of this floored storage area it will be noticed that these wings afford considerable mow room, which added to the deep center bay will hold a great deal of alfalfa hay or other feeding and bedding roughage for winter use.

Besides the outside concrete foundation wall the whole stable is floored with concrete and fitted with feed racks, which extend all the way around the bay. There is a feed alley between the feed racks and the sides of the center bay. This feed alley has an overhead hay and silage carrier track which goes all the way around the deep bay, making it

easy to scatter silage into the manger under the feed racks.

The mangers are quite low so the cattle reach down for the feed. This permits placing the hay racks low enough down so the cattle can reach their feed easily.

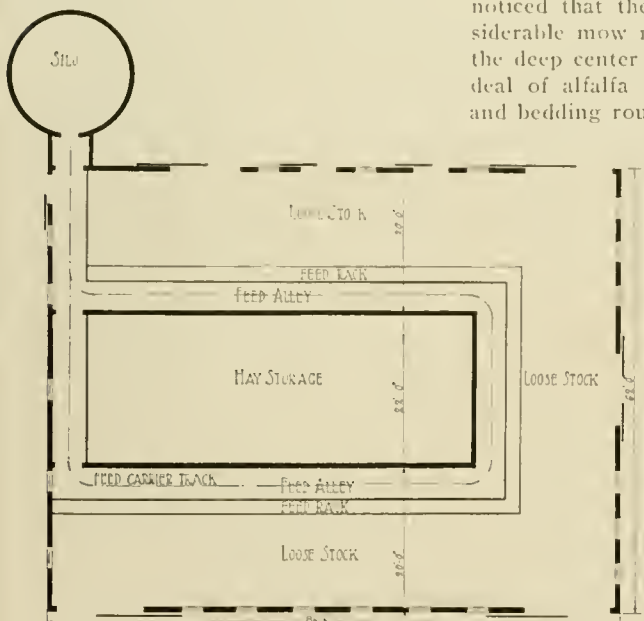
There are five stable doors which are wide enough to permit a manure spreader to be driven through, so the manure may be removed with the least possible amount of hand labor. The space outside of the hay bay is 20 feet in width on three sides; part of this is taken up with a feed alley and feed racks, but there is over 300 feet of outside wall, which give the cattle considerable room to move about.

The arrangements for stock feeding are very satisfactory to stockmen who have tried this plan. It gives a shed that may be opened in mild weather and made close in cold weather in winter.

There are sufficient windows to admit light at all times.

The feed, both silage and hay, are convenient and easily handled, so that the animals may be properly cared for from spring to fall and at the least possible expenditure of labor.

There are two good ventilators on the roof, which pull a draught no matter which way the wind blows.





Combination Dairy and Horse Barn. Size, 36 by 60 feet, suitable for 24 cows and 7 horses. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. When ordering, ask for Design No. A300 H.

Combination Dairy and Horse Barn

A combination farm barn suitable for almost any farm is shown in Design A300 H.

It is 36 feet in width by 60 feet in length and furnishes stabling for 24 cows and 7 horses. Thirty-six feet in width is the standard for a cow stable where litter carriers and feed carriers are used in the alleyways. The horse stalls being turned the other way, the

width of building does not count.

The whole foundation is of concrete with footings and piers reaching down to solid ground below frost and firmly embedded to prevent settling. Over the stables is an extra large mow that holds a great weight of fodder when filled to the peak, so that good underpinning is necessary to keep the building square and plumb and to prevent cracks in the masonry work.

The whole barn has a concrete floor, but the cow stable is different from the horse end, because of the depressions for gutters, the slope of the standing floors, the mangers and slight elevation for the

center feed alley. Also the ceiling over the cow stable is a foot lower than the horse stable. Eight feet in the clear is considered about right for a cow stable to ventilate properly, but most farmers like to have a nine-foot ceiling in a horse stable.

This barn is arranged for the greatest possible convenience in doing the chores. The silo is connected to the stable by a small feed room directly in front of the main feed alley, so that the silage carrier can run directly from the hopper under the silo chute to dump the silage into the mangers. This same carrier will take silage and other feed from the feed room to the horse mangers.

The litter carriers are arranged to carry the manure from the gutters behind the cows and dump it directly into the manure spreader to be carted at once to the field.

The ventilating system carries off the foul air from the four corners of the barn.





We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. When ordering, ask for Design No. A298 H.

A General Farm Barn

A farm barn designed to accommodate dairy cows and farm horses and to keep the two stables entirely separate is given in Design No. A298 H.

As shown by the perspective and floor plan, it will be noticed that the horse stable is built as an annex to the cow barn by extending the roof.

The barn is 52 feet in width and 60 feet in length. The cow stable proper is laid out with stalls facing outward. This is done to bring the horse feeding alley and one of the cow mangers to face each other, so the feeding may be done to better advantage.

The silo is placed on the cow stable side of the barn because more silage is fed to cows than to horses. However, if the silage carrier is placed right it may be run through the side alley to the feed alley between the horses and cows so the silage may be delivered on the other side of the alley.

The stable is of concrete up to the joists which support the barn floor.

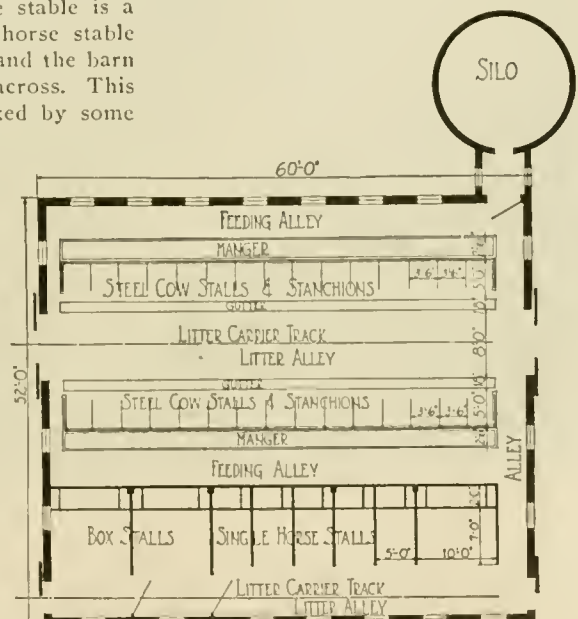
The concrete wall is 10 feet 6 inches high, which gives ample footings to reach below frost and also eight feet of headroom in the cow stable.

The floor in the horse stable is a foot lower, so that the horse stable has 9 feet of headroom, and the barn floor is made level clear across. This arrangement is better liked by some farmers than to have the jog in the floor above.

There are twenty windows in the stable and six windows to light the barn above the stable. Farmers are becoming quite liberal in the supplying of windows. Modern dairy stables demand a great deal of light, because light and sanitation necessarily go together. The advantages of more light in the stable have influenced a more liberal

supply of windows in all parts of the barn, as well as other farm buildings.

This little barn furnishes stabling for 28 cows and 8 or 10 horses.



Separate Dairy Stable

A dairy barn to hold twenty cows and other stock in the two box stalls is shown in Design A301 H.

It is 36 feet in width and 54 feet in length, exclusive of the feed room and silo. This style of building a dairy stable is well liked in some sections of the country where farmers are doing special dairy work along sanitary lines. Usually such farmers have other farm barns where roughage is stored under cover for use in the cow stable as needed.

This stable has a solid concrete foundation with walls that extend up two feet above grade. They are waterproofed on the outside to keep moisture away from the foundation.

Inside the foundation walls is a solid concrete floor, which is laid off with mangers at the sides of the center feeding alley, with a cow standing floor, the front portion of which is on a level with the bottom of the mangers. These standing floors slope back to the gutters. The alleys behind the gutters are several inches lower than the standing floors and are wide enough to make room for the manure carriers which run on overhead tracks, so the stable may be cleaned easily and quickly with the

least possible expenditure of hand labor.

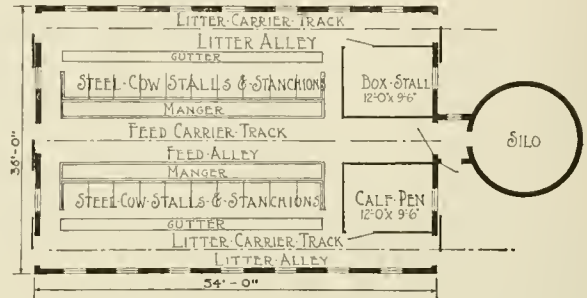
Each alleyway is open to the yard by doors in each end, so there is easy access to the stable from all directions.

There is a well made ceiling over the cow stable which gives eight feet headroom in the clear above the floor of the center feed alley. This ceiling is carefully constructed to make it airtight. Ventilation is given at the sides by putting ventilating flues in the walls, which carry the foul air up the slope of the roof to the center monitor windows.

Above the stable is a space that is usually filled at thrashing time with straw for bedding. The straw is let down into the feed room between the stable and the silo, otherwise there is no connection between the stable and the storage room above. Careful dairymen object to having any kind of a storage room in connection with the dairy stable, because of the dust which floats about when the bedding or other roughage is dropped down. But the arrangement of drop-

ping it into the feed room is not objectionable, because the doors are kept shut at such times and the dust is confined to the feed room.

The same chute is used to drop silage from the different silo doors as required. All outside doors are hung with especial roller tracks, so they open and shut very easily and fasten with heavy iron fasteners, which may be operated from either the inside or outside.



A great many little inventions to the finish of a dairy stable have been put on the market in recent years, which all help as labor savers or for convenience in doing the work, so that dairying is becoming a much more satisfactory business than formerly.



Separate Dairy Stable, 36 feet wide by 54 feet long. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. When ordering, ask for Design No. A301 H.

Two Story Barn of Large Size —Design A256 H

A splendid dairy stable with large storage capacity overhead is illustrated in design A256L. The basement is very carefully planned to be built with concrete walls and concrete floors, mangers and gutters.

The wagon approach to the second story also is built of concrete, and there are concrete walks leading to all the principal entrances to the stable floor. The two silos, each 16 ft. in diameter, are placed at one corner in rather an unusual way. A dust proof chute is built between the silos and the corner of the barn, and the hay is brought to this chute by horse fork. Placing the silos at this corner gives an unobstructed passageway clear through the center of the barn.

As the cows face out, the silo feed-room is directly opposite one end of one feed alley, so the conveniences of feeding on that side are fine. The other alley is connected with this feed-room by an overhead track and silage carrier.

It is a puzzle sometimes to place silos in a most convenient spot. Every dairyman wants to save steps at feeding time, but sometimes it is necessary to build a stable where the approach to the

silo is made under difficulties. In this plan the stable is supposed to be built on a slope, looking to the south. The yards are to the south of the building and the driveway approach is from the higher ground at the north. As the silos are placed, it is easy to drive a loaded wagon on three sides of them, a convenience that is very much appreciated when the corn is being hauled from the field to the chopper.

At the east end of the stable, box stalls, bull pens and calf pens are arranged. Hay chutes are also at this end of the stable, where there is more room for handling it. To the west is the feed and mixing room with a partition between the feed-room and the cow stable. This makes a double door buffer between the cows and the west wind. The prevailing winds are from the west, and there are times in winter when this big double door arrangement is appreciated.

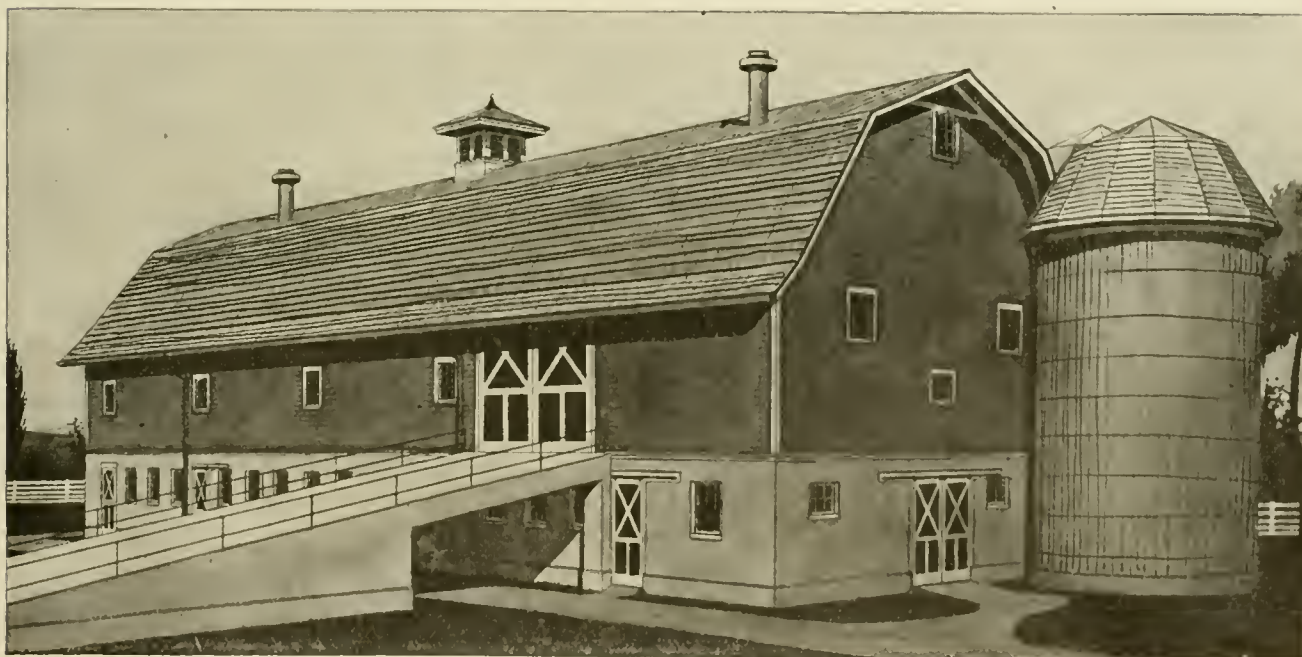
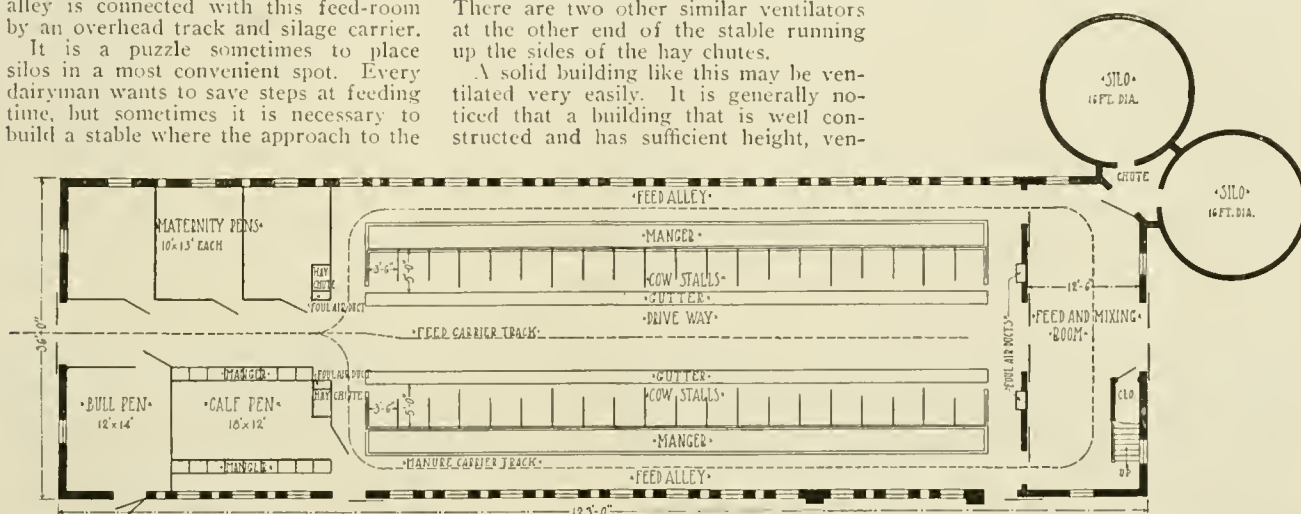
This partition also provides a good place for the foul air ventilating ducts. There are two other similar ventilators at the other end of the stable running up the sides of the hay chutes.

A solid building like this may be ventilated very easily. It is generally noticed that a building that is well constructed and has sufficient height, ven-

tilates easier than a lower stable. This is one argument in favor of a room above the stable proper. Dairy men are paying more attention to ventilation than formerly, because the value of good ventilation has been brought home to a good many dairy men through increased returns.

The large feed room at the West end of the stable is a convenience in many respects, one of which is the opportunity to build a good stairway up to the general barn floor above the stable. When a sanitary cow stable is built in the basement and roughage is stored in the big mow overhead, it is not always convenient to work in a stairway.

There really should be no direct connection between a dairy stable and the storage room for hay and straw. The clouds of dust that float through the dairy stable when hay is being moved in mow overhead is objectionable, because of the great quantities of bacteria that float around on the dust,



EXTRA LARGE DAIRY BARN

123 by 36-foot gambrel roof barn with concrete basement to stable 40 cows. Two large 16-foot silos hold the feed; mow floor is reached by concrete bridge. We can furnish complete set of blue-printed working plans and type-written specifications for only \$10.00. When ordering, ask for Design No. A256 H.

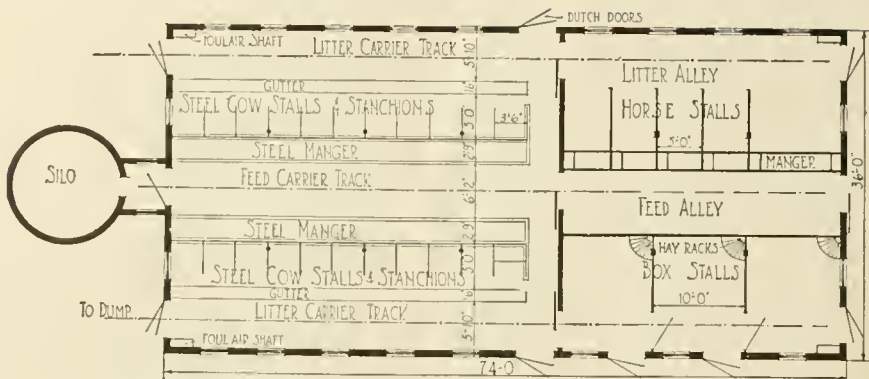
Combined Dairy and Horse Barn

A dairy and horse barn 36 feet in width by 74 feet in length is shown in the accompanying perspective and floor plan. The plan is built to accommodate twenty-two cows and six horses in the standing stalls. In addition there are three box stalls which may be used for any kind of live stock, because they are partitioned off by themselves with convenient doors to enter from different directions.

Each cow stall has an iron stall partition which takes up little or no room. It is there for the purpose of preventing the cows from turning sideways and crowding their smaller neighbors. Such stall partitions really affect a saving in room and are almost indispensable. At least dairymen who have used iron stall partitions never care to get along without them afterwards.

The construction of this plan is a little different from the ordinary, from the fact that the foundation wall extends up four feet above grade. The wall is of concrete started two and one-half feet below grade with wide footings to ensure against settling or cracking.

The wall and concrete floor are all



Floor Plan of Gambrel Roof Barn. Design No. A284 H.

made together almost like one piece. The framework of the building is plank frame construction starting from the top of the wall. Plank frame truss work reaches from the top of the wall to the peak, which makes a very stiff frame.

The ventilating system consists of four foul air shafts, which reach from near the floor to the metal ventilators on the peak. These foul air shafts are protected by the corners of the building next to the stable doors. There are three ventilators on the roof, the two end ventilators are used especially to take care of the foul air from the shafts, and the ventilator at the center is for the hay mow only.

Intake pipes are provided in the walls

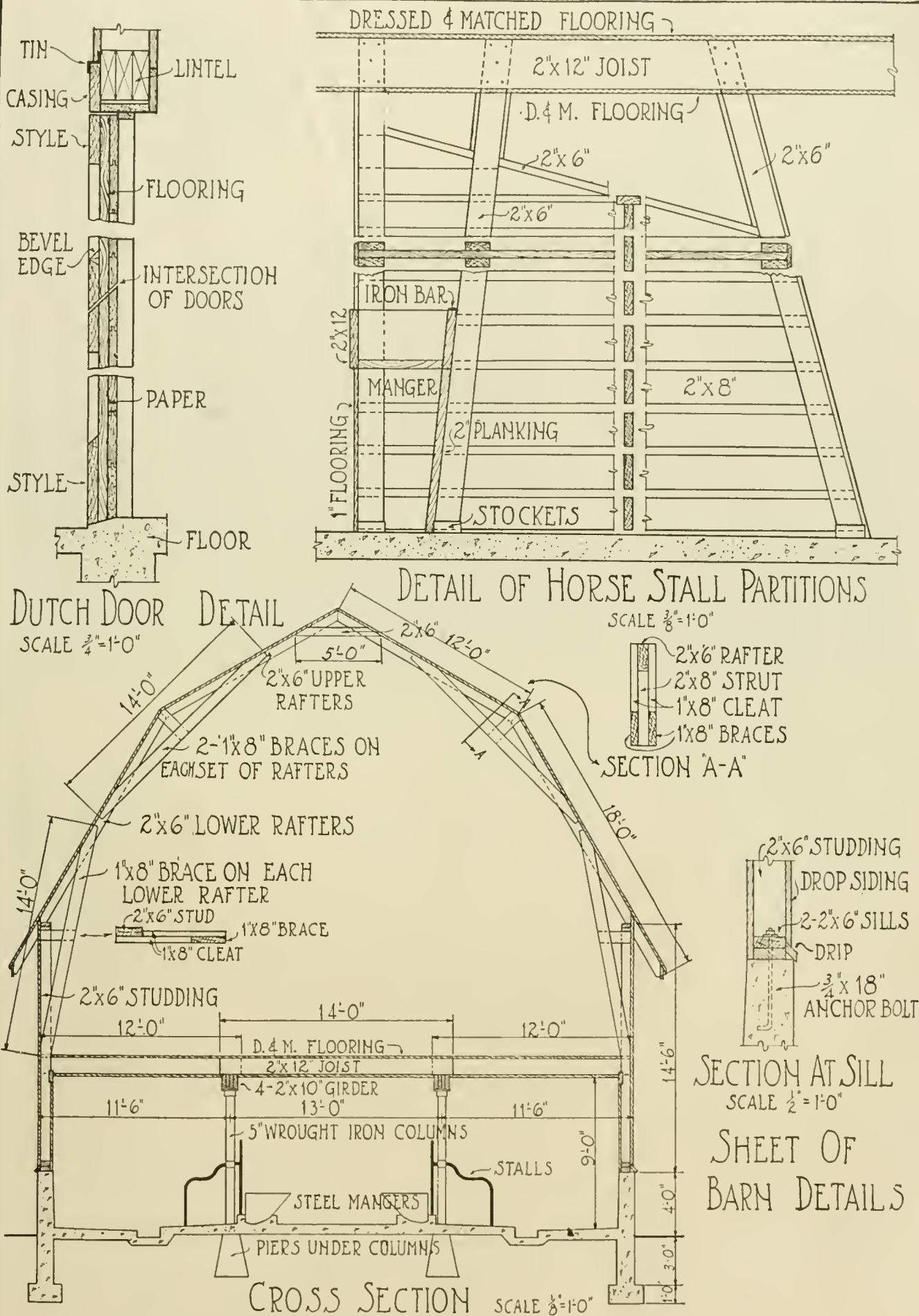
in such a way as to take the air in from just above the concrete wall and deliver it into the stable near the ceiling.

The stable is lined as smooth as possible. With a smooth interior and smooth iron stall partitions and stanchions, and a good ventilating system, it is comparatively easy to keep a cow stable clean and sanitary.

Manure carriers are suspended from overhead tracks back of the cows, so that the stable may be cleaned quickly as soon as the cows are turned out for an airing. These manure carriers are labor-savers to such an extent that they soon pay back the cost in the saving of labor alone.



A modern gambrel-roof barn for 22 cows and 6 horses, besides three large box stalls. Cows are stanchioned in two rows, facing in. Size of barn 74 by 36 feet. We can furnish complete set of blue-printed working plans and type-written specifications for only \$8.00 per set. When ordering, ask for Design No. A284 H.



Construction Details of 36-ft. Span Gambrel Roof Barn (Design A284 H.) Shown on Opposite Page.



A businesslike Gothic-roof design to stable 16 cows and 14 horses. Overhead litter carrier runs through both stables. Size on ground, 70 by 36 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00 per set. When ordering, ask for Design No. A282 H.

Gothic Roof Combination Barn

A Gothic or curved roof barn, 36 by 70 feet is shown in this design. Gothic roofs on barns are becoming popular in many sections of the country, because of their neat appearance and smooth interior. A roof of this shape is strong, because of the built-up arches. The heavy trussed rafters are 6 feet apart on centers. There are two lighter rafters between, which brings the bearings for the roof boards two feet apart.

The detail drawings show the manner in which the rafters are built up, as well as the end bracing and other details of construction.

There is a concrete wall 5 feet 6 inches in height, commencing with the footings four feet below grade and extending 18 inches above grade. The stable floor is placed at grade at the sides of the building in front of the mangers.

The stable standing floor has the usual incline and the gutter is 16 inches wide. The general plan of the cow stable is arranged to face the cows out, leaving a driveway through the center of the stable 8 feet 6 inches in

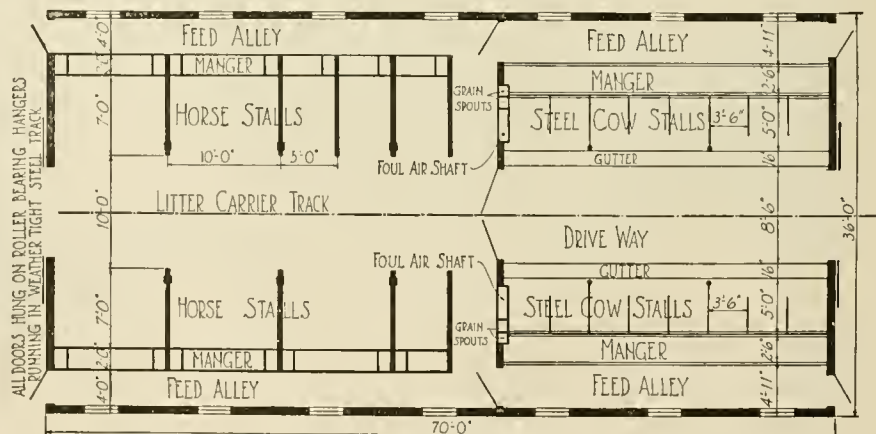
width between the two gutters. The same driveway extends through the horse stable.

Stabling is provided for 16 cows and 14 horses. The horse stable is partitioned off from the cow stable, so that the two stables are quite separate, except that they are connected by doorways in all three alleys.

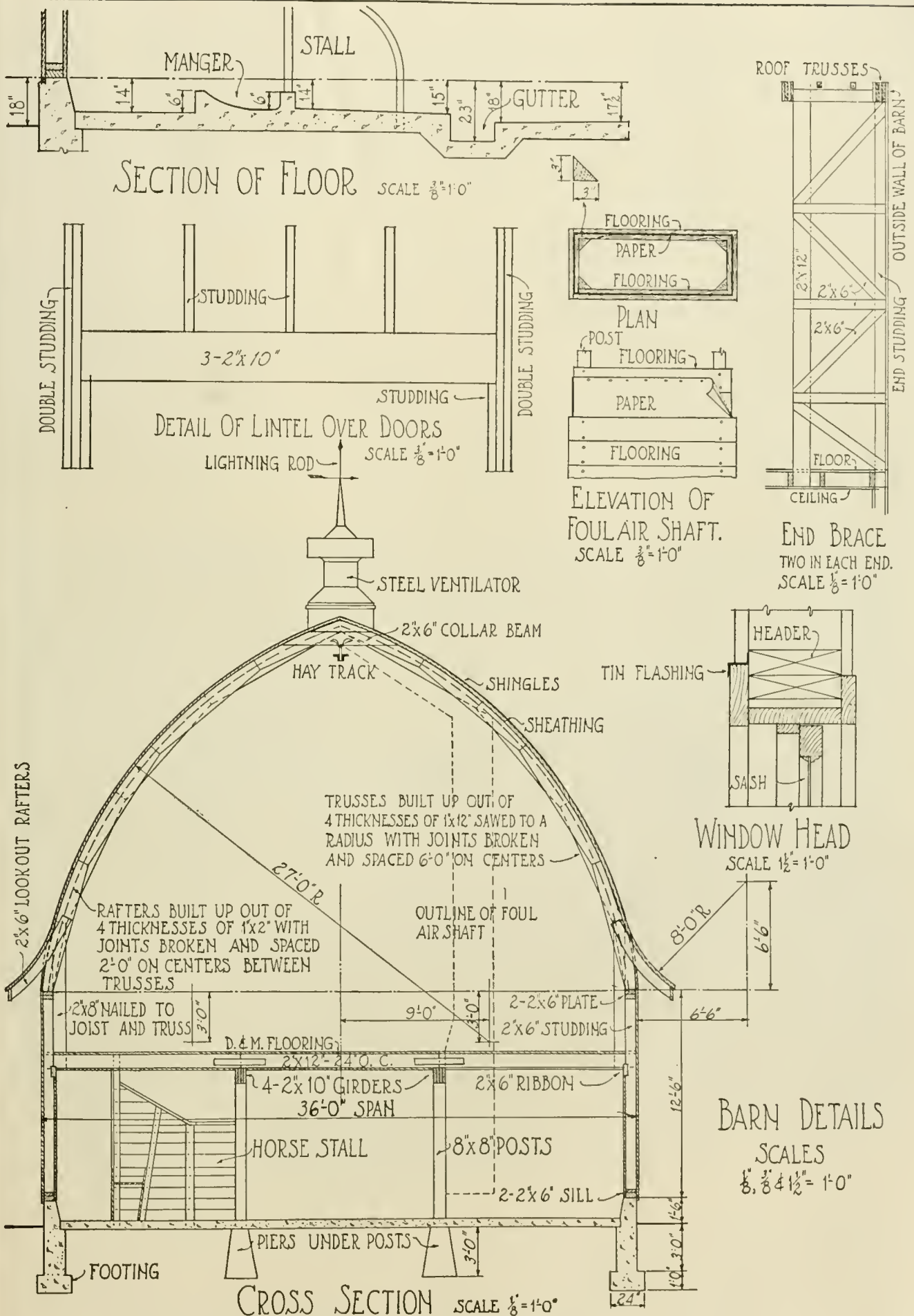
The horse stable floor is level and the stall partitions are made of wood. There are wooden columns in the horse stalls and five inch wrought iron col-

umns filled with concrete in the cow stalls.

The cow stable walls are made double and ceiled on the inside with narrow flooring tongued and grooved without heading. The ceiling joists are covered in the same way. The boarding is carefully painted with three coats of white paint made by grinding white lead into linseed oil. This makes a ceiling that may be washed and kept clean, and being white, aids very much in lighting the stable.



Floor Plan of Gothic Roof Barn, Design A282 H.



Details of Gothic or Curving Roof Barn (Design A282 H.) Shown on Opposite Page.

Small Horse and Cow Barn

A combination farm barn and stable, 34 by 44 feet, is shown in this design. This size and style of barn is intended for a farm of from twenty to forty acres where a dozen cows are kept, and accommodation is required for four or five horses.

The detail drawings, shown on the opposite page, give the construction from the footings of the concrete wall to the metal ventilating cupola on the peak of the roof. This light frame truss plan of roof has been worked out during the development of dairy stables to provide abundance of mow room for feed and other roughage stored over the cows for convenient feeding. This plan provides for a concrete floor with alley ways, gutters and mangers of the proper widths and all thoroughly well supported by ample piers and footings to carry the load when the

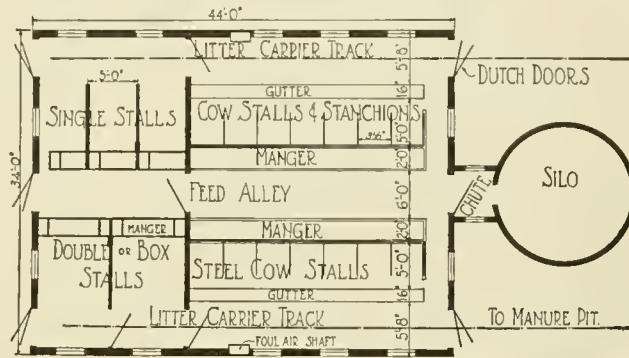
barn is filled with grain or fodder.

Two ventilating flues are provided to carry off the foul air from the cow stable. Fresh air is let into the stable by air ducts through the outside walls which deliver fresh air over the cows in such a way as to prevent a direct draught. The silo is connected with the stable by means of a covered passage-way which makes a very good feed room.

The detail drawings on the opposite

page show the framing of the rafters from one sill clear around to the other sill. Each line or string of floor joists is a tie to take up the end thrust of the rafters to prevent any possibility of spreading. This is one of the main features in this manner of construction that is sometimes overlooked. Each set of joist are either lapped or spliced on the girders and they are spiked together and they are also well spiked into the studding.

A great deal of attention has been paid to the hay track. Special hanging irons are furnished by the manufacturers which cop onto the collar beams and the track swings underneath. Time is saved by having the collar beams all even and true. It will be noticed by referring to the sectional rafter drawing the collar beams are quite short. The object is to get the hay track as close to the peak as possible.

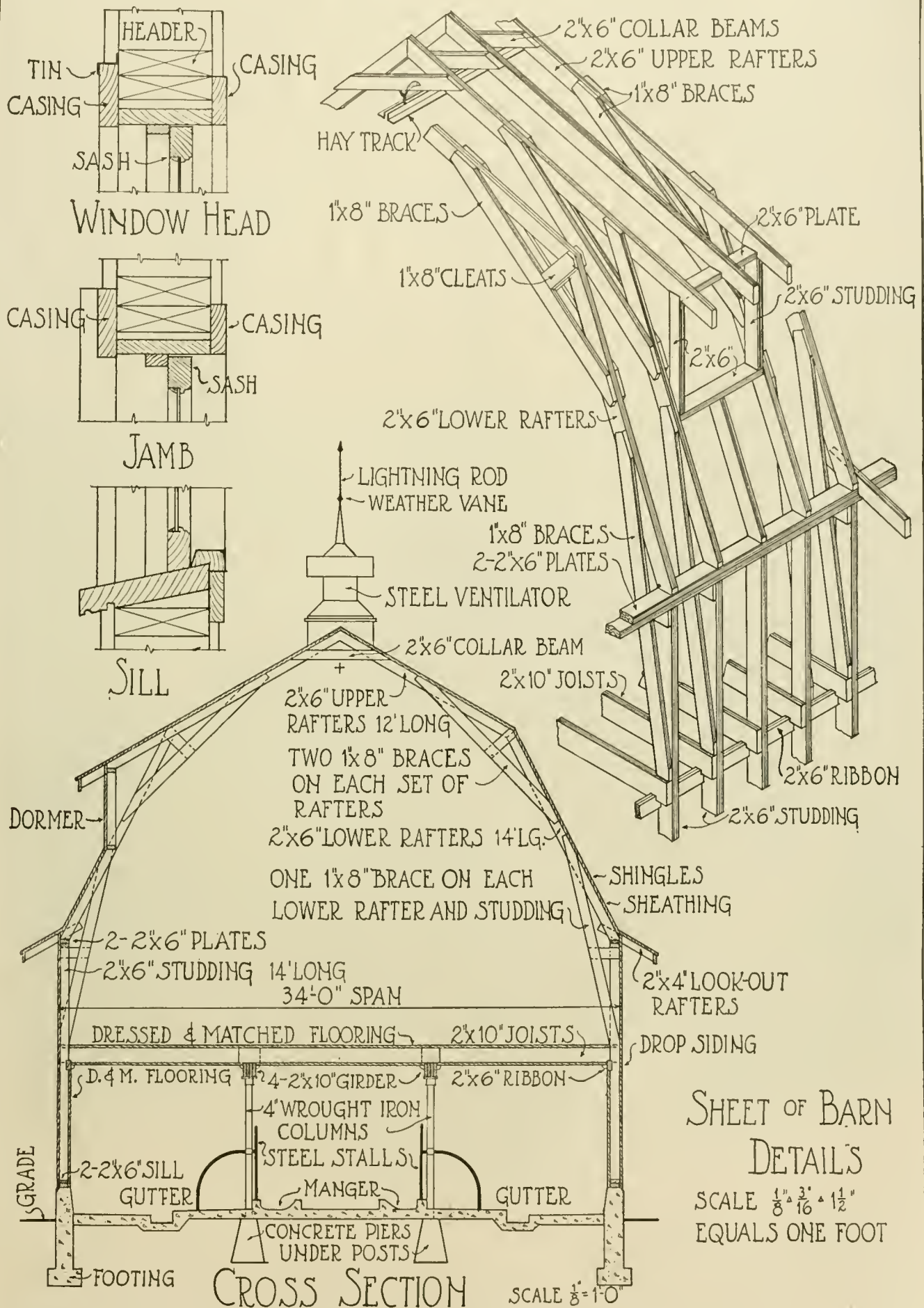


Ground Floor Plan of Horse and Cow Barn Design
A308 H. Size, 44 by 34 ft.



A General Farm Barn of Small Size to House Both Horses and Cattle and Their Winter Supply of Food. A 44 by 34-Foot Gambrel Roof Barn. We can Furnish Complete Set of Blue Printed Working Plans and Typewritten Specifications for Only \$6.00 Per Set. When Ordering Ask for Design No. A308 H.

For Details of this Barn See Opposite Page.



Details of Construction Drawn to Exact Scale of Gambrel Roof Barn with Dormers (Design A308 H.) Shown on Opposite Page.

Combination Corn Crib and Granary

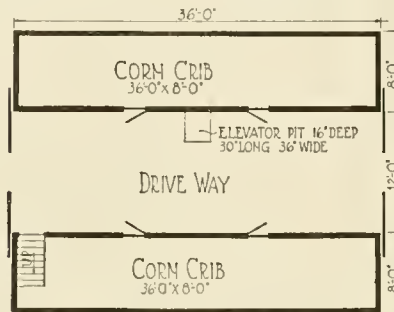
In this plan the corn cribs are each 8 feet in width, and they occupy the outside of the building from the concrete floor to the curb or purlin plates. The sides of the corn cribs are made open in the usual way to promote circulation of air to properly cure the grain. The space in the center of the building is intended for thrashed grains. It is divided into bins as shown in the second floor plan.

A high storage for grain, built in this way, requires a farm elevator which cannot be shown in the drawings because there are various makes and the installation varies in detail according to the style and operation of the machin-

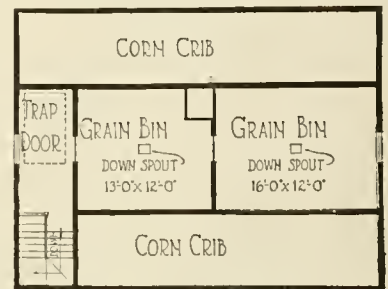
ery. There is an elevator pit shown in the concrete floor at one side of the driveway where such pits are usually constructed. The size and proportions of the pit are best furnished by the manufacturers of elevating machinery. The advantage of such a building is better

storage of grain, including ear corn.

Such buildings are labor savers, because they accommodate labor-saving machinery. The impossibility of doing farm work by hand has compelled farmers to resort to more economical methods of doing business.



First Floor Plan.



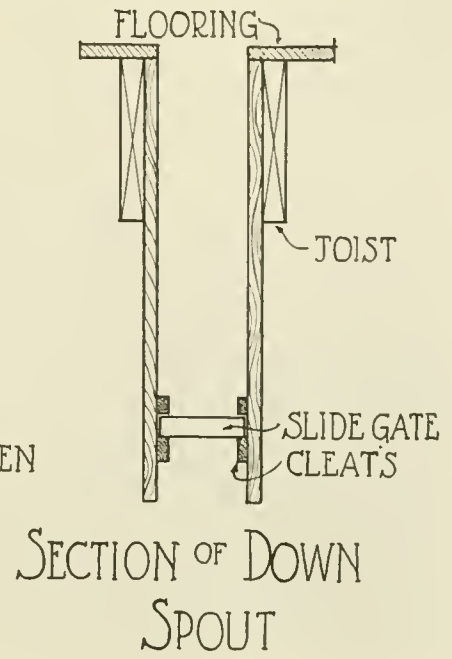
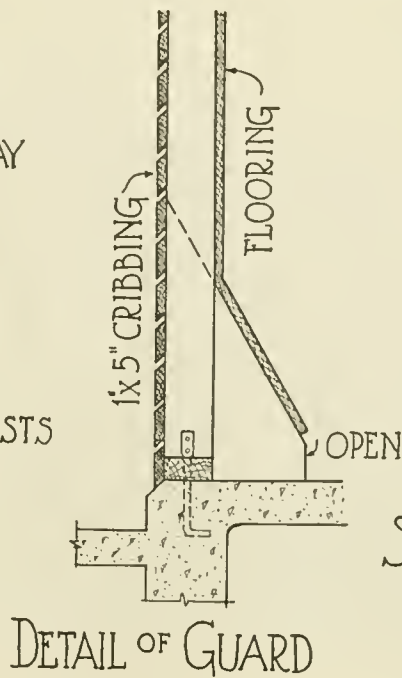
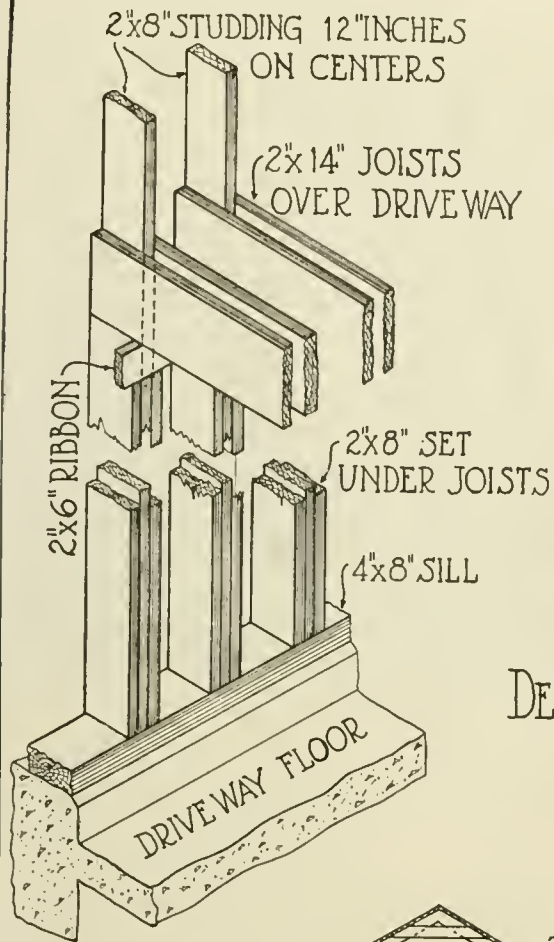
Second Floor Plan.

Arrangement of Two-Story Granary, A306 H.

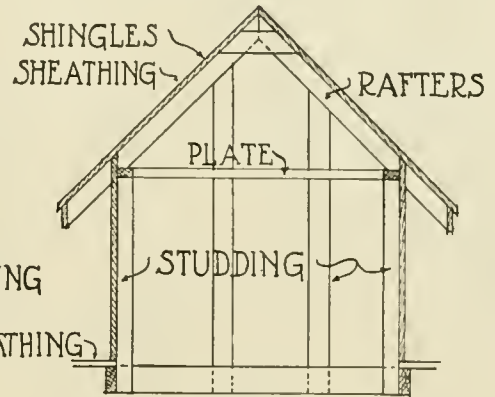
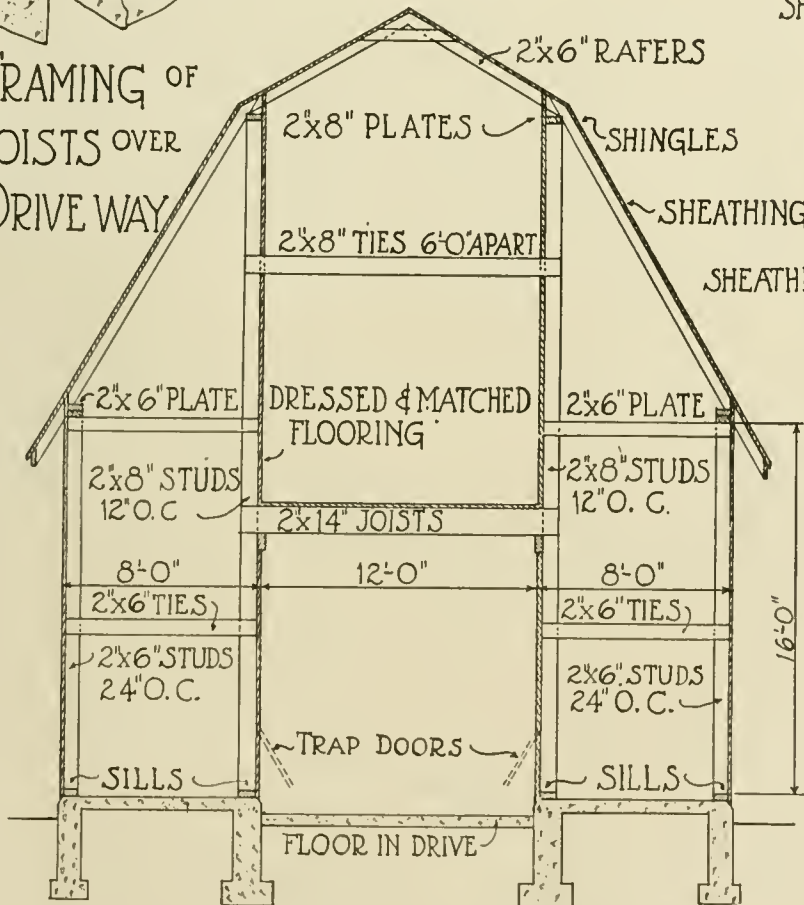


A Two-Story Gambrel Roof Combined Corn Crib and Granary. A building of huge storage capacity arranged for easy handling of ear corn or grain by means of power elevating machinery. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. When ordering, ask for Design A306 H.

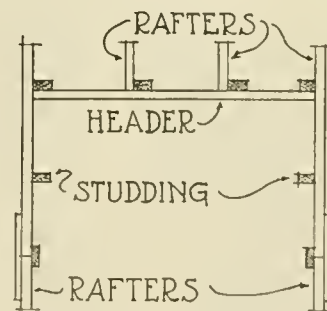
For Details of This Granary See Opposite Page.



FRAMING OF JOISTS OVER DRIVE WAY

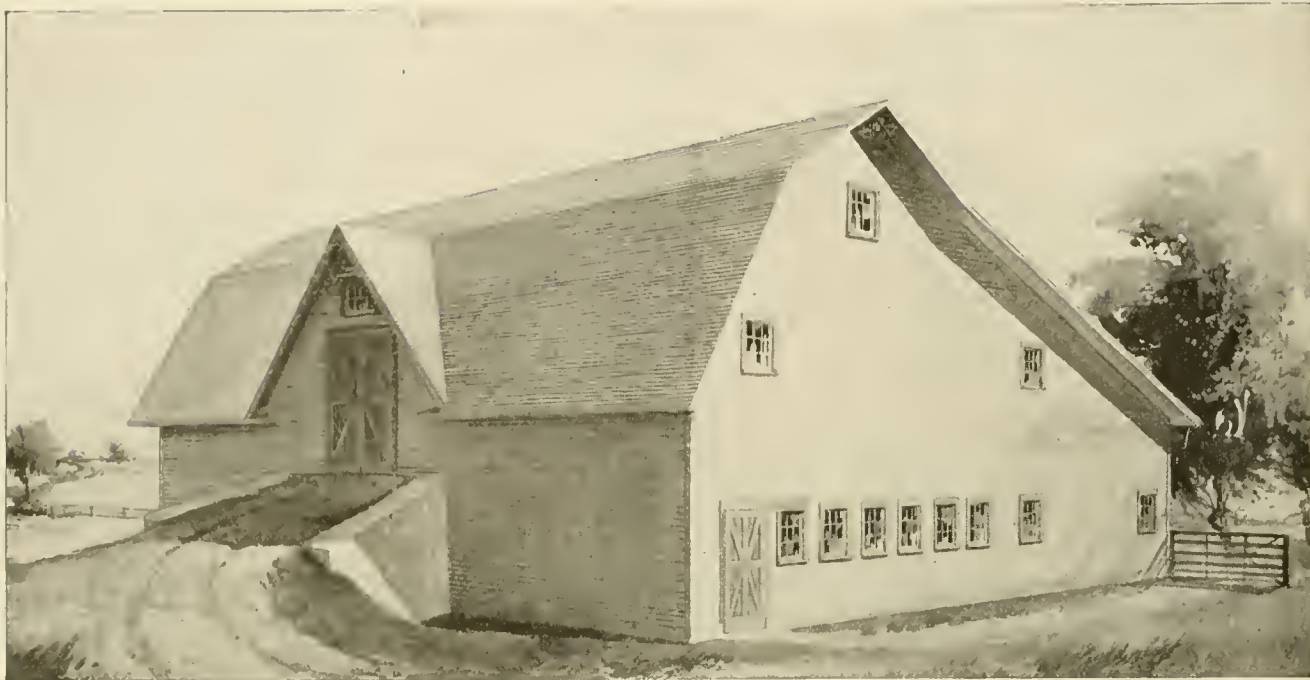


SECTION



PLAN

GRANARY DETAILS
 SCALES $\frac{1}{8}"$, $\frac{1}{4}"$ & $\frac{3}{8}" = 1'-0"$



COMBINED BARN AND COVERED BARNYARD

An Unusual Barn Design That Has Many Good Points. A bridge barn measuring 68 by 80 ft. Root cellar under bridge is filled from trap door just inside the big doors. In the horse part are stalls for twelve horses. The cow stable provides stanchions for eighteen cows. We can furnish complete set of blue-printed working plans and type-written specifications for only \$10.00 per set. When ordering, ask for Design No. A247 H.

Combined Barn and Covered Barnyard—Design A247 H

A great many dairymen like to have a covered barnyard for the cows to exercise in, and some go so far as to keep the cows in this covered barnyard both night and day in winter, just stabling them long enough

to milk and feed grain and silage. In some parts of the country the covered barnyard is growing in favor.

The plan (A247 H) is designed for a bank sloping to the south. There is a good root cellar in the bank next to the building on the north side, and the large roof surface is utilized to furnish water for the cistern. A cis-

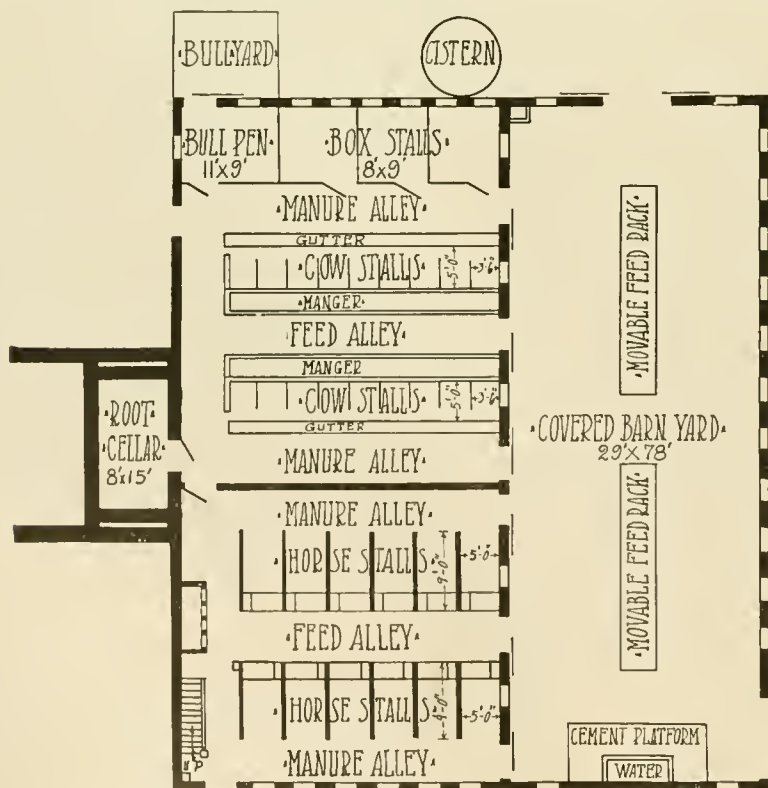
tern filter is placed inside the building, so it won't freeze. To have nice cistern water, it is best to run it through a filter.

The feed racks in the covered barnyard are made removable, to facilitate driving through at cleaning time. Mild days in winter the manure spreader is brought in at one door, loaded and taken out at the other. The racks are placed in the center under the feed chutes, so the roughage from the storage above may be dropped into them with as little work as possible. With a cistern and a windmill, the water tank is kept well supplied all the time, so the cows may run to it when they want to.

The stable floor should be about 2 feet higher than the floor in the covered barnyard. This gives an 8-foot ceiling in the stable and a 10-foot ceiling in the yard.

The arrangement is entirely different from the ordinary dairy barn and fits the class of men who do business differently. Dairymen are not alike in their methods or ideas; each one must work on his own plan. Theoretically, cows are better for having their freedom, and it would be difficult to find any practical objection. Even the work is not increased if the management is what it should be. There are some splendid features about this barn. The root cellar is so situated that it may be filled from the top and the roots taken out through a door on a level with the stable floor.

Have you read your insurance policy carefully? Does it insure, or is it merely a contract that binds you to pay a certain premium and lets the company out on some technicality after you are burned out?



Ground Floor Plan of Barn with Covered Barnyard, No. A247 H.



LOW-COST BARN WITH MONITOR TYPE ROOF

An interesting and popular barn design, 48 by 57 feet. High center part holds considerable roughage. Ground floor is laid out for vehicle room in the center with horse stable at one side and cow barn at the other. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. When ordering, ask for Design No. A275 H.

Barn with Monitor Type Roof —Design A275 H

In illustration A275 H is shown a type of barn that has been built a good deal by horse breeders. But this plan was drawn for a general-purpose barn for a farm in Minnesota. It differs from the old horse barns by having an upper floor the whole size of the barn.

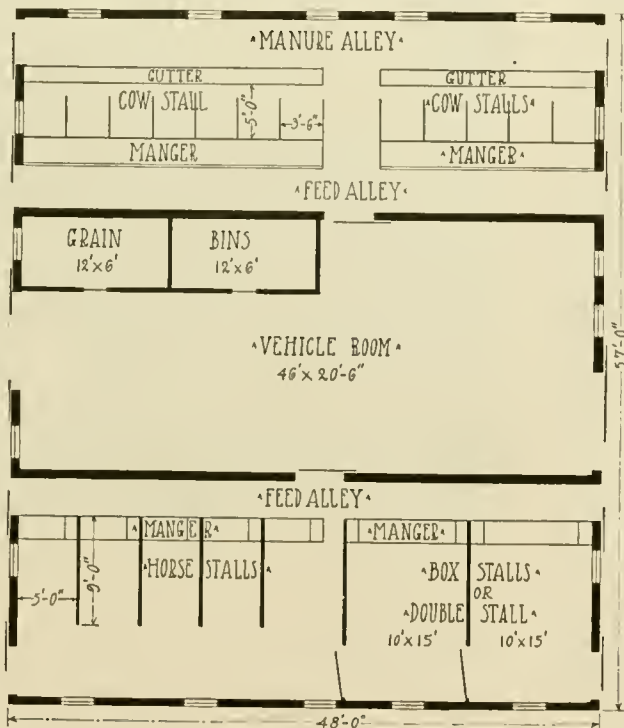
The owner has some good horses and he has some good cows. He looks after them himself, and is very carefully breeding up. He uses the vehicle room at present for training his colts in the winter time. For this reason, he leaves out the grain bins for the present, as he could store his grain in the old shed granary for another year.

He believes in training a colt when it is quite young. He spends hours on this floor in the center of the barn in the winter time, teaching young colts what a halter is for and why they should behave differently when they have a bridle on and a bit in the mouth.

The size of the barn is 48 feet in length by 57 feet in width. It is a case of building a barn wider than the length. The expense is not very much greater by adding the monitor roof, as it would otherwise be a single straight roof building, but this monitor helps a good deal in the storage.

There is a good concrete foundation wall extending all the way around the

barn, and the stable floors, feed alleys and manure alleys are of concrete. The owner wanted a soft floor in the center



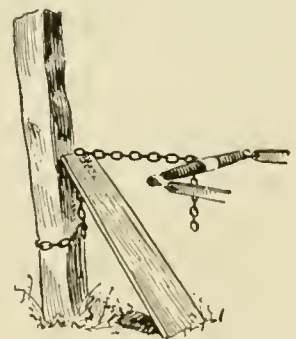
Floor Plan of Barn No. A275 H.

of the room 20x46 feet for his colts. As this room is separated from the two stables, it may be floored at any future time, without interfering in any way with the present arrangement of stables.

The ceiling over the stable is supported by feed alley partitions and other posts in the usual way.

How to Pull Fence Posts

One of the simplest post pullers is made by setting up a 2 by 6 about 3 feet long, in a slanting position against the post to be pulled. Fasten a chain around the post just above the ground and run it over the board. Then hitch a singletree to the end of the chain; and one horse easily pulls out any ordinary post.



2 by 6 Chain, and Horse Pull the Post.

Annual Holidays

New Year's, Jan. 1; Lincoln's Birthday, Feb. 12; St. Valentine's Day, Feb. 14;

Washington's Birthday, Feb. 22; St. Patrick's Day, March 17; Good Friday, Friday before Easter; Easter Sunday, usually early in April; Decoration Day, May 30; Independence Day, July 4; Labor Day, first Monday in September; Thanksgiving Day, last Thursday in November; Christmas, Dec. 25.



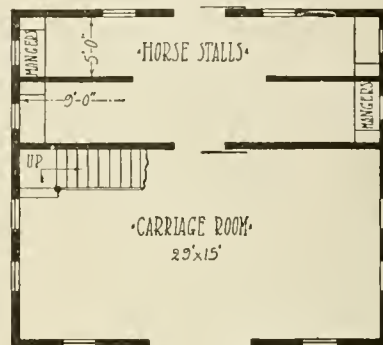
VILLAGE HORSE AND CARRIAGE BARN

An ornamental, attractive design that will accommodate four horses and full outfit of vehicles. There is considerable feed storage room upstairs. Size, 30 by 27 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. A235 H.

Suburban House Barn— Design A235 H

A somewhat fancy barn that looks a good deal like a house is shown in this design. The shape of the roof and cornice, the windows and the general proportions, all combine to give it this effect.

It is a carriage house with four single horse stalls in the rear and a good car-

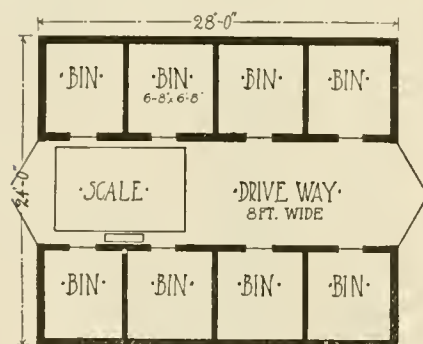


Floor Plan of A235 H.

riage room in front. The loft provides for considerable storage room for hay and bedding. The size on the ground is 27 by 30 feet, with 9-foot studding. It is very much better to make the floor of cement. The cost is not much different and the cement is so much more durable and satisfactory.

Rat Proof Granary—Design A141 H

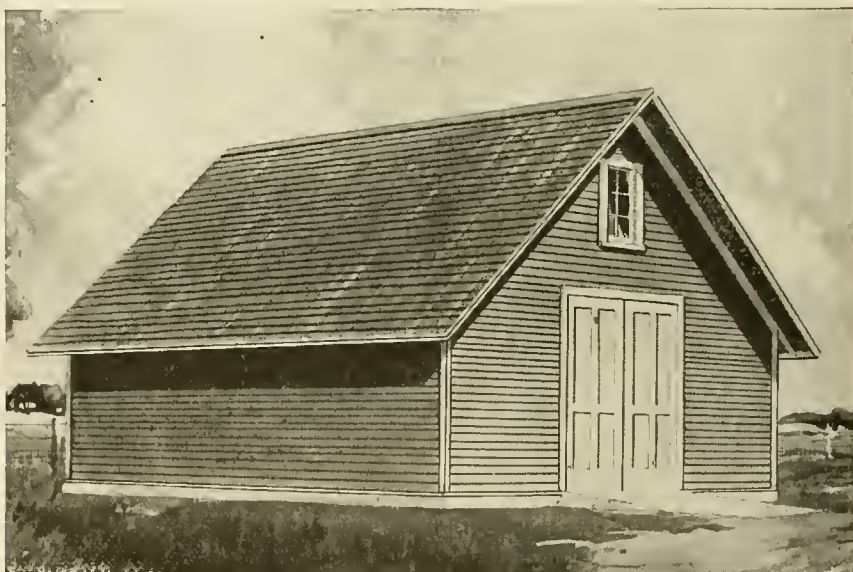
Next to a chicken house, a granary offers the greatest inducement for rats. A dry floor and one that is rat-proof may be made by excavating for the foundation about 6 inches deep. Then pound in about 3 or 4 inches of cin-



Floor Plan of Granary A141 H.

ders and lay the sills and joists on the cinders and fill in the spaces between the joists with concrete. In framing the joists, build a pit for the scales just deep enough to let them in flush with the floor. If you don't know the exact depth, make the pit a little deeper than necessary, because the scales may be easily blocked up. At the edges around the sills and outside of the cinders let the concrete project down and outward about a foot all around.

Concrete for this purpose may be made with very little cement, say, one part cement, four parts sand and five parts gravel or broken stone pounded down so that no stones project above the joists. Strike it off level with a



GRANARY AND SCALE HOUSE

Snug and trim building containing eight grain bins, 6 feet 8 inches square, besides center driveway, 8 feet wide, where is placed a large platform scale. Size of building, 28 by 24 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$4.00 per set. When ordering, ask for Design No. A141 H.

straight-edge. Do this work about a week before the sides of the building are put up; and sprinkle the concrete every day, so it will set properly.

The studding is then set up in the usual way and matched boarding put on the outside of the studding, and the boarding covered with siding in the usual way. This construction leaves the studding exposed on the inside of the bins, so that a dog or cat can

easily reach rats or mice that find their way inside. Hollow walls make harbors for vermin, but this construction leaves them no protection. There is a window in the back end of the alley, and another one over the door in front. The doors are made heavy and swing out. They close against heavy jambs, so that rats and mice have very little encouragement to eat their way in around the door.



Handy Implement Shed, 24 by 50 feet, with double doors at each end, also on one side. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$3 00. When ordering, ask for Design No. A309 H.

Implement Shed

A convenient house for the storage of implements is shown in Design A309 H.

It is 24 feet in width by 50 feet in length. There is a 16 foot door in each end for the easy entrance of the larger farm implements, and there is a small door in the side to be used when passing in and out and for the carrying in of hand tools and other small farm implements.

Farm machinery and implements depreciate about 10% a year when they are properly housed and kept painted. The loss from leaving tools out in the weather is enormous. An implement shed constructed in this manner is a great convenience in doing repair work.

All farm machines require overhauling in the winter time to put them in a thorough working condition during the busy time in spring. A house of this kind makes it easy to take the machines apart and examine every wheel and every casting, so that the worn parts may be replaced and the whole machine gone over with paint or linseed oil.

This implement house has a concrete wall extending all around the outside and it has a concrete floor to keep the tools and machinery up from the ground and to keep them dry to prevent rusting.

The sides and ends are built in the usual way by using a light sill and 2x4 studding covered with drop siding or clapboards. The roof is constructed by 2x4 rafters with matched roofing boards covered with roll roofing.

The advantage in using matched roofing boards is to prevent the wind from flapping the roll roofing. Good roofing boards will sometimes double the lasting qualities of the roof.

Some farmers build a regular repair shop in one end or in the center. The shop is provided with a blacksmith kit and all the necessary woodworking tools to make small repairs on any farm machine or implement; such



work as replacing lost bolts or broken braces, or replacing worn parts with new ones is done in the winter time between chore periods.

But a farmer is helpless without tools. It is not necessary to collect an expensive outfit of blacksmith's, machinist's or carpenter's tools, but a forge, anvil, vise, drill press, with a small assortment of cold chisels, punches, hammers, wrenches, and tongs will enable a farmer to do a good deal of blacksmith tinkering and save many trips to town during the busy season when time is an object.

A few carpenter's tools, such as saws, a square, a couple of good heavy hammers, with a brace and bits and a few wrenches and half a dozen chisels will give a handy farmer tools enough to do extensive repairing.

Farm machinery and implements are made with standard patterns so

that repairs may be ordered for almost any implement manufactured. There are so many different patterns that mistakes may occur in filling an order, so it is a good plan to get all such orders off to the factory a long time before the machines are needed. The difference between preparing a good seed bed in the spring or doing a hurry up job at the fall end of the seeding season depends more upon management in this respect than upon hard work or extensive seeding outfits.

A good implement shed is a valuable acquisition to any farm, because it places a farmer in a position to attend to little things at the proper time to prevent trouble later.

In building an implement shed it is a good plan to use plenty of concrete in the foundation, and if it has a concrete floor the full size of the building the machines may be moved about much easier.

The object of a machinery shed is to protect farm implements and machines from the weather. If machines stand on the ground moisture comes up from below sufficient at times to rust every iron part of a machine that is not covered with paint, oil or grease.

A floor for this purpose should be made the way a sidewalk is constructed. The ground is laid off in divisions four or five feet in width by a 2x4 that is held in place by stakes. The top of the 2x4 is leveled so the concrete when filled in and tamped and properly surfaced with a layer of cement mortar is struck off level with the top of the 2x4 guide.

Wagon or Implement Shed— Design A108H

A wagon shed 20 feet wide and 40 feet long, like the one in the plan illustrated, is a useful building to have on any farm. One thing is important

easily done in a building like this when you have a good floor to work on. Odd days in winter may be profitably spent in such a building with a few carpenter's tools, a paint brush and an assortment of paints and oils. A solid building designed for the stor-

but the ceiling boards are nailed to the outside of the studding, and the clapboards are nailed over the tongue and groove ceiling. The tongue and groove for this purpose must be of good quality. It is carefully put on and is carried up to the top of the plate.

The reason for building in this way is that there may be no harbor for rats or mice.

The idea of having small bins is to keep certain grains separate for seed. The grain may be taken out of one bin, run through the seed grader and the best put into another bin. After taking out the heaviest grain for seed, the other is probably put in sacks and left in the sacking room until needed for feed. There is no ceiling overhead, the bins extend up to the roof.

A grain house built on this plan is very convenient, and, being rat-proof as well as damp-proof, it makes a good place to keep grain that the owner is particular about.



SNUG WAGON AND MACHINERY SHED

A well-built, tight structure 40 by 20 feet, guaranteed to protect valuable farm machinery and pay for itself in a short time. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$3.00 per set. When ordering, ask for Design No. A108 H.

about a wagon shed, and that is to have the entrance wide enough to get things in and out easily and quick-



Floor Plan of Shed A108 H.

ly. This double door gives an opening 10 feet wide, which is very good for small implements, but some binders require about 16. The door entering an implement shed must be high enough to let in the highest implements used on the farm, and there must be no cross timbers inside lower than the top of the door.

The farmer building the shed will know whether he wants to house a binder under full sail or whether he wants to take it apart, and will of course build a doorway accordingly.

Implement sheds, like all other buildings, should be designed for what is to be required of them. An implement shed is a necessity on every farm, but some farmers want to house threshing machines and traction engines, while others want a shed to hold mowers, plows, cultivators, a wagon or two and perhaps a few barrels and other truck. A large building, of course, would answer for everything, but it is not necessary to build bigger than a man wants.

A good many tool houses are built without floors, but the extra cost of the floor is more than offset by the dryness and freedom from rust of the machinery. Wagons and machinery require repairing, which is

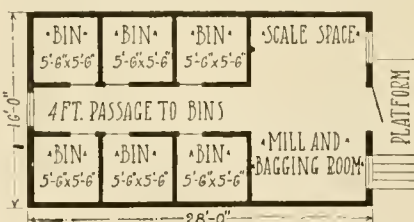


GRAIN HOUSE ON CONCRETE FOUNDATION.

Well arranged granary, containing six bins, besides scale, mill and bagging room. Size, 28 by 16 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$4.00 per set. When ordering, ask for Design No. A107 H.

age of seeds and feeding grains is given in design A107L.

The foundation is concrete, with a concrete floor banked well up from the surrounding ground. The building is studded with 2x4s in the usual way,



Floor Plan of Grain House A107 H.

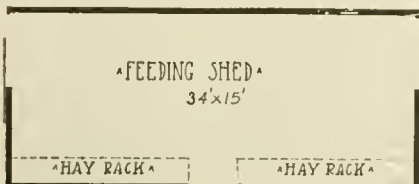
tom of the crib, then make a concrete floor or bottom, allowing the concrete to come up 2 or 3 inches on the screen wire. This floor can be made on the ground, using plenty of rock for drainage, or it can be made by covering an elevated floor with the concrete.

In this way nearly the entire loss caused by rats and mice can be prevented. The wire will permit the air to pass through the bins as freely as would the usual slat or board construction. In this way the corn saved in one year would pay the expense of the concrete floor and screen lining for the crib, and the lining and floor would last many years.

Feeding Sheds for Colts — Design A121 H

In the southwest corner of a paddock on a New York stock farm is a shed built like this for the use of colts in the winter time. The front of the shed is placed even with the barn yard fence.

The paddock fence extends north from the corner of the shed next to the door. This fence arrangement was designed especially to help drive the colts in through this wide door in the



Floor Plan of Colt Shed A121 H.

corner of the paddock and barnyard fences.

The feeding arrangement in this shed is very convenient. The hay rack extends pretty well back and is fastened to the rafters. The rack is big enough to hold a load of hay. Under the rack is a solid plank trough to catch the leaves that sift down from the hay rack. This trough is used for feeding grain.

The shed is kept well bedded and the colts are shut in every night when it is cold or stormy. There is sufficient light through the front opening because it filters in through the partly filled hay rack, and this arrangement seems to work very well, as there are no windows to break. Colts are a little different from other kinds of stock, because they are so mischievous.



A COLT FEEDING SHED

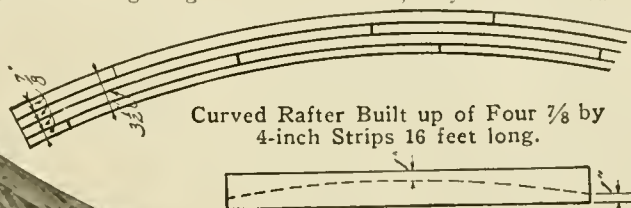
A serviceable building 34 by 15 feet to house young stock. Hay is pitched in from the outside to the feeding racks along the front. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$3.00 per set. When ordering, ask for Design No. A121 H.

The hay rack extends the whole length of the shed, but the trough reaches only to the door from each end of the shed. There is a bar across this door, under the hay rack, to prevent the colts from getting out into the barn yard, but the bar may be lifted when the attendant wishes to enter through this door. The advantage of extending the hay rack is to prevent the colts from getting

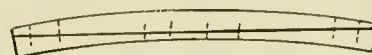
in between two racks to get hurt.

To keep the hay dry in the rack, the roof must extend from 4 to 6 feet beyond the front of the building. In mild weather, both doors are left open so the colts can run into the paddock or go into the shed at any time of day or night.

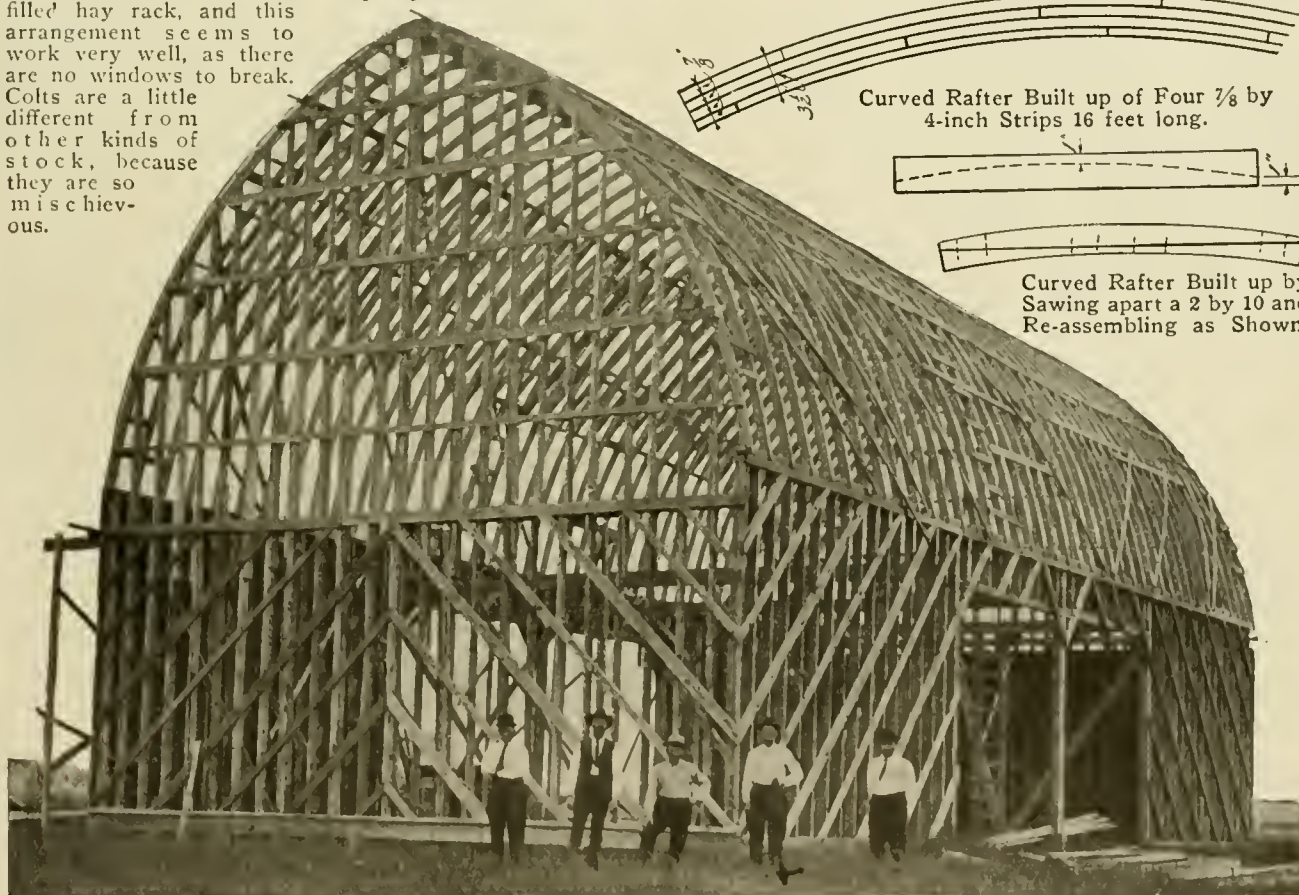
Colts should not run in the barn yard with other stock, they run too fast.



Curved Rafter Built up of Four $\frac{7}{8}$ by 4-inch Strips 16 feet long.



Curved Rafter Built up by Sawing apart a 2 by 10 and Re-assembling as Shown.



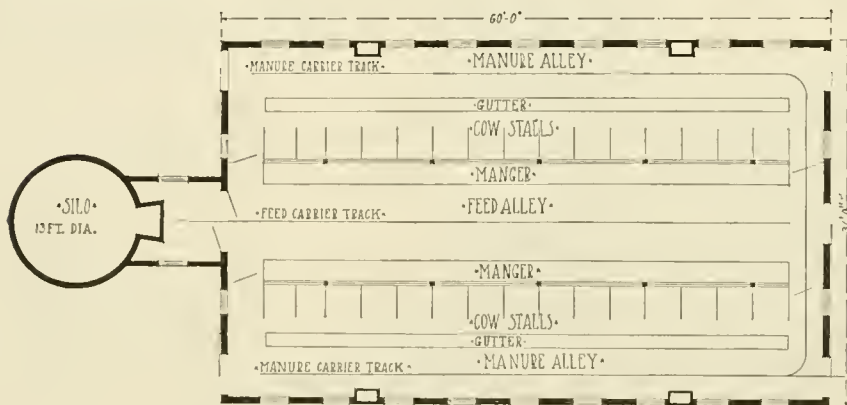
GOTHIC ROOF FRAMING FOR BEAUTY AND STRENGTH

A Gothic or curved roof makes a unique and at the same time a practical type of roof. It can be used instead of the ordinary gambrel in the construction of almost any barn design, if the farmer wants something distinctive. This barn is 36 feet wide by 80 feet in length, built of plank frame construction from the sill to the peak. The builder calls particular attention to the diagonal bracing, which makes a very rigid frame. The diagonal braces are firmly bolted and spiked on the outside.



SIXTY-FOOT DAIRY BARN WITH SILO

A modern gambrel-roof barn for 30 cows; 13 foot silo is at end of central feed alley. Cows are stanchioned in two rows, facing in. Size of barn 60 by 36 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$8.00 per set. When ordering, ask for Design No. A273 H.



Ground Floor Plan of Dairy Barn No. A273 H.

Thirty cows, fifteen on a side, is the capacity of this dairy stable. It is a plain, straight-away dairy stable with the most approved concrete floor, alleyways of good width and passageways for entrance and egress in every direction.

It is customary in some parts of the country to make the stalls all one size, 3 feet 6 inches wide, with 5 feet between the manger and gutter.

In other parts of the country it is customary in a long stable to place the manger 4 feet from the gutter at one end, and 5 feet 6 inches from the gutter at the other end to accommodate the length of floor to the different sized cows. There are stanchions made which may be adjusted to take up or lengthen a stall a few inches. Some stables are built with stalls 4 feet 6 inches long on one side and the other side of the stable has all 5-foot stalls.

It seems necessary to have a variation of about 6 inches, but custom

seems to vary a good deal with the different localities.

This dairy barn was designed for a section where the winters are rather mild and the farmer has considerable shed and yard room so the cows can spend a good deal of time in the yards and under the sheds during the day.

The end of the shed shown in the illustration is a hint of what the yards contain. The sheds front the south or the east to take the advantage of the morning sun and also to take a different kind of advantage of the north and west winds.

The laying out of barnyards and the building of stable sheds to suit the business, requires considerable close study to make everything fit in to the best possible advantage. What is suitable on one farm would be out of place on another, because while the business may be similar, it is conducted along different lines.

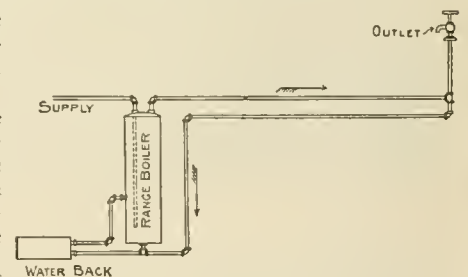
The climate also has a good deal to

do with the proper planning and building of dairy stables and stock sheds. Not that the stables themselves are much different, this design is good for the north and it is good for the south, but the manner of handling cows and the dairy adjuncts differ according to the environment and the disposition of the owner.

Instantaneous Hot Water

With a hot water tank connected with range or furnace, it often happens that the water runs cold on the second floor for a couple of minutes till the water is drained from the pipes. A farmer who is about to remodel his house, writes: "How can I have the pipes arranged in my new house so the hot water will be right at the tap?"

This plan may help: It will require a return pipe which has a fall from the highest outlet. There should be no traps in this line of pipe. The water will circulate through the system of pipes as long as there is hot water in the range boiler, and will remain hot up to the point where the outlets are taken off.



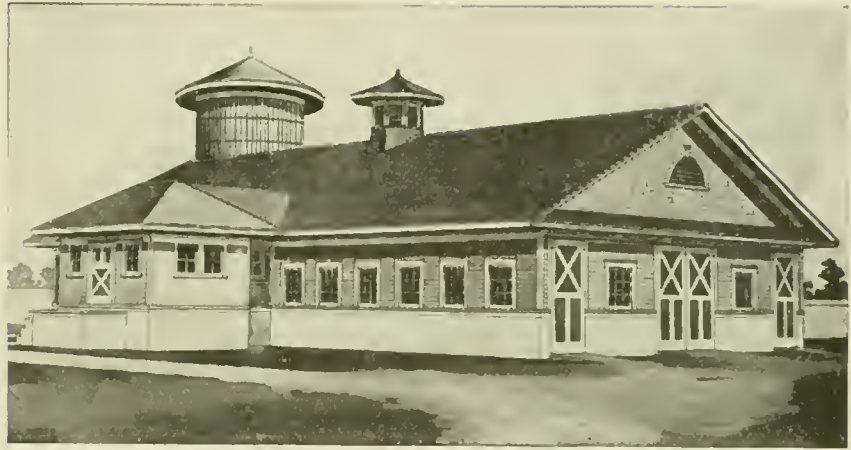
Piping to keep hot water on tap all the time.

Thirty Cow One-Story Barn— Design A251 H

A stable 80 by 36 feet, not counting the milk room, silo and tool room, is shown in this design.

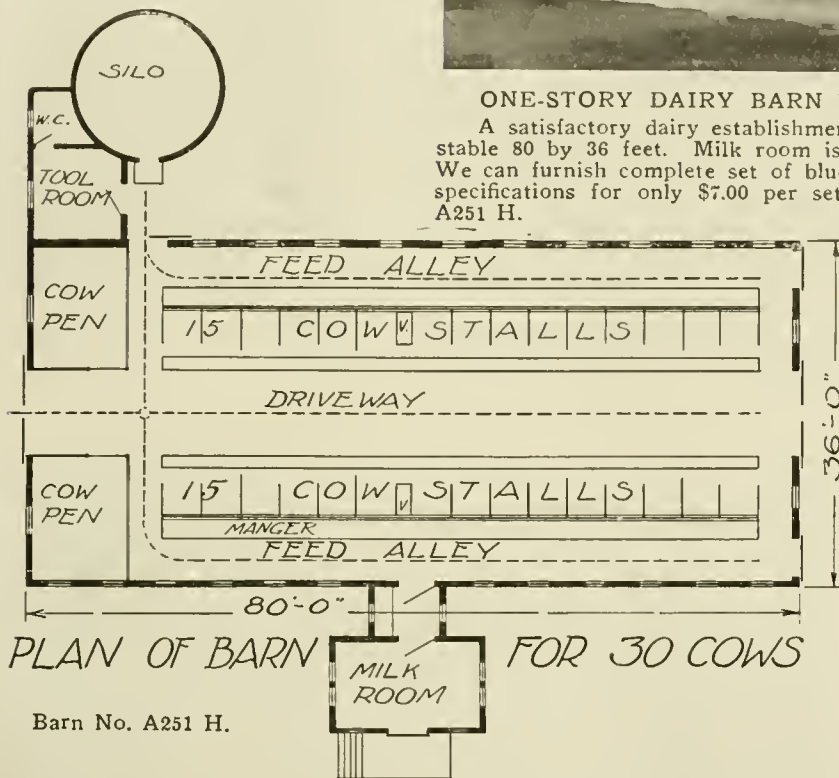
Thirty cows make a good income when they are housed in a building like this. With a dairy herd of thirty good cows in a light, airy stable, a man feels like making each cow turn a net profit of \$100 per year, and he is more than likely to do it. \$3,000 is very interesting, especially when it comes from only one branch of the farm business.

In this plan the cows are headed



ONE-STORY DAIRY BARN WITH SILO AND MILK ROOM

A satisfactory dairy establishment for a herd of 30 cows. Size of main stable 80 by 36 feet. Milk room is entirely separate from the cow stable. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. When ordering, ask for Design No. A251 H.



fencing, make it long enough so the wire will make a turn around the end pieces. The panels are $3\frac{1}{2}$ or 4 feet high. $3\frac{1}{2}$ is plenty for hogs, but cattle or colts should have a 4-foot fence.

For a larger field, where more hogs are kept, a more satisfactory temporary fence is simply a roll of woven hog wire, stretched along and fastened to a line of gas pipe posts with stakes driven at distances of from 8 to 12 feet. Smaller short stakes with hooks on them hold the bottom wire down to the ground. These stakes may be of gas pipe with the top end battered enough to catch the bottom wire.

This kind of a fence requires a good, solid post at each side of the field. These end posts may be permanently set into the side fences. When done with, such a fence is rolled up and hauled off on a stone boat and stored under the tool shed until wanted again.

out, and there is a driveway through the center for the manure spreader, so the manure from the gutters may be loaded and hauled to the field with only one handling. The bedding is brought in by the wagon load through the same channel. Even when the storage barn is handy, a wagon is often used for this purpose. If either of the box cow pens are not in use the extra bedding is pitched in there until wanted.

There is an over-head track which runs to the silo to fetch and carry silage at feeding time. The same track is supposed to run to the storage barn for alfalfa hay or other roughage.

Portable Hog Fences

In raising hogs for market, it is necessary to grow certain crops to hog down. If the hogs are permitted to run the field over, they tramp down and waste too much, so it is a matter of economy to have fences to confine them to certain parts of the pasture. They will then eat the feed without much waste. This applies especially to such crops as sor-

ghum, wheat, oats, rye, rape, soy beans, cow peas and such.

For a comparatively small field, panels can be made 1 by 6 fencing boards, nailed together near the corners, as shown in the little drawing. Hog fencing is stretched across and fastened. The panels are wired to temporary posts driven into the



Portable Fence

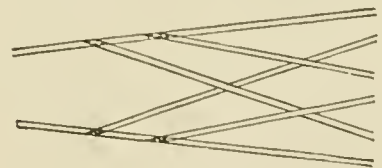
ground with a sledge hammer. The posts used for this purpose are old gas pipes, 1-inch or $1\frac{1}{4}$ -inch second-hand pipe. Used pipe is kept by junk dealers in all large cities. The panels should be nailed, and the nails clinched. In addition to this, there should be a carriage bolt through the center of each crossing of the boards. This will require six bolts to a panel. The durability of the panels depends upon the solid manner in which they are put together. In cutting the wire

Cubic Inches

There are 2,150.42 cubic inches in a bushel. The number of cubic inches in a gallon is 231.

Lines for Three Horses

It is easy to make a set of lines and checks suitable for three horses, simply by adding two long checks to the ordinary double lines as shown in the sketch. Make the checks plenty long, because you need more room for three horses than you do for two. Often in hot



Lines for Three Horses

weather, when working in the fields, you want to spread the horses as much as possible, and you must have long checks in order to do so.



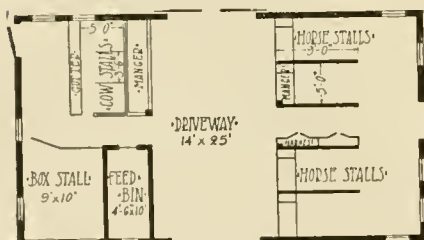
SMALL GENERAL FARM BARN OF NEAT DESIGN

Size 46 by 26 feet. Ground floor stables four horses and three cows. Hay is put in through counterbalanced vertical sliding door. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. A230 H.

Horse and Cow Barn—Design A230H

The size of this barn is 26 by 46 feet. The ground floor plan provides stabling for four horses and three cows in open stalls. In addition to these, there is a handy box stall such as every stock barn should have. It will be found very useful when one of the animals gets sick or needs individual attention for any purpose.

One splendid feature about this barn is the center driveway which gives easy access and easy egress. The plan gives the necessary manger room for convenience in feeding. It is a pretty good barn plan; in fact, just such a building as every farmer needs in addition to the large stock barn.



Floor Plan of Barn No. A230 H.

Considerable ingenuity has been displayed in the invention of hay doors that will open and stay open, and shut and stay shut at the proper time. The photo shows a hay door that will slide up and down in grooves. It is balanced with two counter weights with ropes running over pulleys in sash weight fashion. It will stay in any position from wide open to close shut.

Sometimes, when the barn is filled with fresh hay, the door is left wide open for ventilation. It is big enough so a large fork full of hay may be swung through it without spilling.

or from the inside. Under this rack is a trough, for feeding silage or grain, made of 2-inch planks, bolted to the upright posts.

The trough, like the feeding rack above it, may be reached either from inside or outside. The intention is to have the bottom of the rack high enough for a beef steer to stand under it, and the trough is low enough for comfortable feeding. Still, it is sufficiently well up out of the barnyard litter.

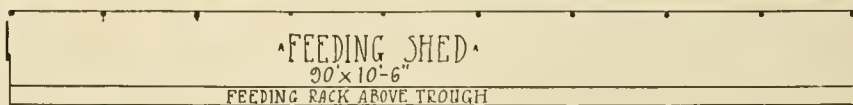
There are doors in the ends of the shed which are generally left open. Bedding is scattered about and the manure is picked up every day. It is difficult to keep a shed like this in condition for feeding all winter if the manure is permitted to accumulate.

Sometimes calves and other small animals are shut in the shed, and the larger cattle permitted to feed from the front side. Because of the open front, the roof is built to project about 6 feet, to protect the hay in the rack.

Feed racks and feeding troughs for cattle should be roomy. Troughs should be low down and wide enough to catch most of the clover leaves and other fine stuff as it drops from the rack.

Value of Stock Shelter

Evaporation of rain from water-soaked animals is a serious matter in cold weather. Evaporation is a



FEEDING SHED FOR CATTLE

Feeding shed 90' by 10' 6" with hay rack and feed trough that can be reached from the inside and from the outside. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$3.00 per set. When ordering, ask for Design No. A123 H.

Feeding Shed for Cattle—Design A123H

On farms where a few beef cattle are fed each winter, some kind of a feeding device is needed to prevent waste. Also shed room is needed for protection against storms and cold winds.

A shed like this, built on the north or west side of a good feed lot, will be of great help in handling roughage.

The hay feeding rack, as shown in the illustration, is so arranged that hay may be pitched in from the wagon. There are slats inside of the shed which slope upwards to the roof, so the cattle may feed either from the front of the shed

cooling process. It requires a large amount of food to furnish the necessary heat to dry off animals after a cold rain.

Evaporation continues while the rain is falling. Sometimes in the fall of the year rain keeps coming day after day, so animals out on pasture are wet a great deal of the time.

How to Dull Brass

One part by weight of iron rust, 1 part white arsenic, 12 parts hydrochloric acid. Clean the brass thoroughly, and apply with a brush until the color desired is obtained, then rinse well, dry and lacquer.



LARGE RIGHT-ANGLE HORSE BARN

A gambrel horse and vehicle barn 70 by 30 feet. Ell projects ten feet for extra vehicle room space. Stable proper has five double stalls, six single stalls and one box stall. There is big hay storage above. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00. When ordering, ask for Design No. A133 H.

Men who keep good horses will appreciate this plan. The arrangement of the stalls is convenient and there is a good carriage room in which to keep vehicles away from the stable part and out of the dust. Every farmer who takes pride in his horses likes to have a nice rig to drive, and it is impossible to have it without conveniences for keeping it clean. With a good carriage room and a good harness room there is no excuse for dirty buggies or an unsightly harness.

A feature of this barn that should attract special attention is the tool room. It is 9 by 10 feet in a front corner of the building, with two good windows for light. There is a general

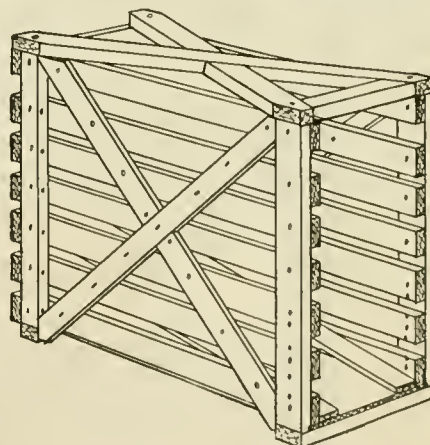
supplies on the dark side of the room. The granary will be large enough or not, according to the other buildings on the farm. Where there is a large barn for threshing, as matter granary in the horse barn seems to answer every purpose. The granary in this plan is placed right, because it may be shut off with two doors from the stable part, still it is not so far away as to make feeding inconvenient.

There is room overhead for a good deal of hay and straw. The hay carrier will bring the stuff from the back end pretty well through to the front.

It would probably be advisable to put a cement floor in this building, the full size of the stable part and the carriage room.

Breeding Crate

The drawing shows a very good plan for a breeding crate for hogs.

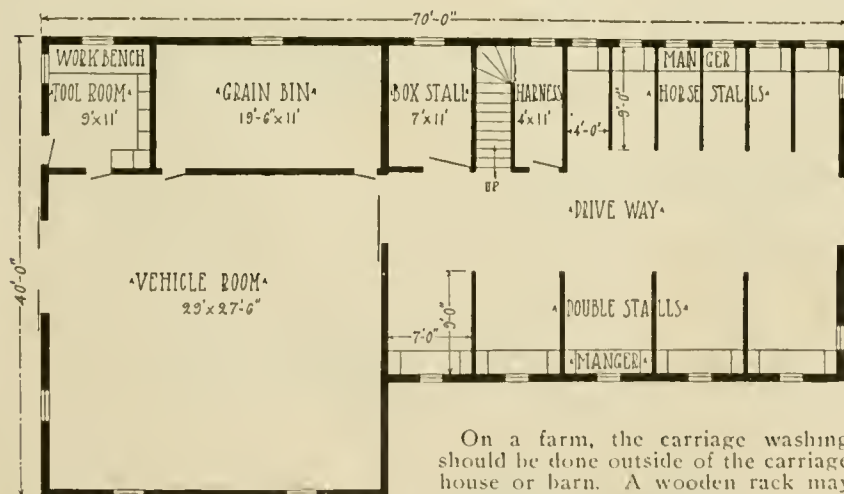


Serviceable Breeding Crate

It is made of of 2 by 4 pieces, bolted together with 5-16-inch bolts. About six dozen bolts are necessary. The cost is not very great, but it makes a strong crate that will be good for twenty years. The crate is permanently closed in front and cross-braced to prevent wrecking. There are diagonal cross pieces at the top, and across the bottom for the same purpose.

The crate will be loaded into the wagon, and men are not very careful in dropping it out, but a crate made like this, and thoroughly fastened together with bolts, will stand a lot of abuse without wrecking it to pieces.

There are two inclined pieces on the inside, as shown in the drawing, and there are a number of holes at different heights for an iron rod.



Floor Plan of Barn No. A133 H.

work bench with a vise on one end and there are boxes to hold tools and

On a farm, the carriage washing should be done outside of the carriage house or barn. A wooden rack may be placed on a sloping bank, convenient to the hose hydrant, where the work may be done much better and the dampness is kept out of the horse barn.

Combination Barn—Design A272H

This illustration shows a horse and cow barn 100 feet long by 36 feet in width.

There is a large passageway extending through the center of the barn from one end to the other. There is a solid partition across the barn between the horse

The ceiling over the horse stalls is 10 feet in height and the ceiling over the cow pens is 8 feet, as it is generally recognized that a horse stable requires a little more height than the cow stable.

There are stalls for sixteen cows, and four pens for calves, and there are two box stalls next to the solid partition. There are two bull pens shown in the plan, either of which may be used ac-

laid in such a way that additional cow stalls may be added at any time as the dairy herd increases. The time will come when regular cow stalls will be required instead of some of the calf pen room. When this time comes, some other provision will be made for the young stock. In planning farm stables such contingencies must be taken into consideration.



ONE HUNDRED-FOOT STOCK BARN

A 36 by 100-ft. gambrel-roof barn with ground floor arranged for sixteen cows in stanchions, six cow and calf pens, two bull pens, and ten horse stalls. A 14-foot silo, together with the big hay storage space under the roof, provide plenty of room for feed. Barn is arranged with central driveway clear through from end to end. Feed and litter carriers help to make the work easy. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$10.00. When ordering, ask for Design No. A272 H.

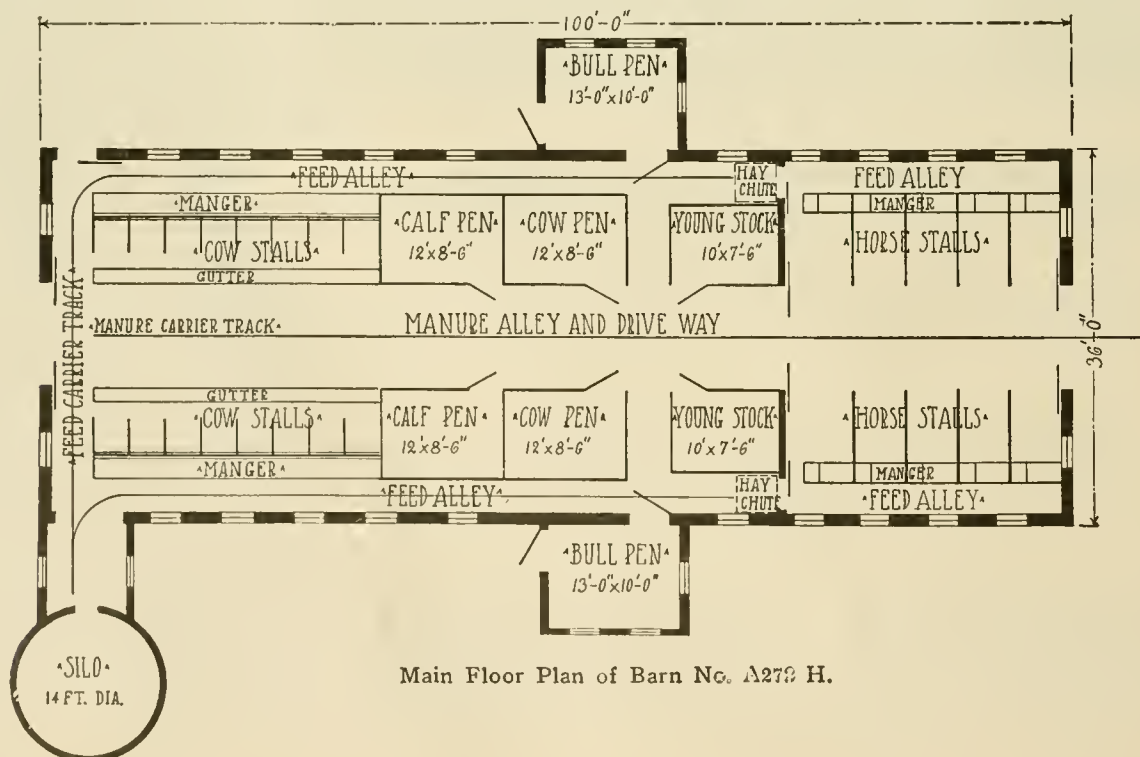
department and the cattle department. On the horse side of this partition are two single doors, and one double door on a roller track which reaches clear across the barn from side to side.

ording to the layout of the yards.

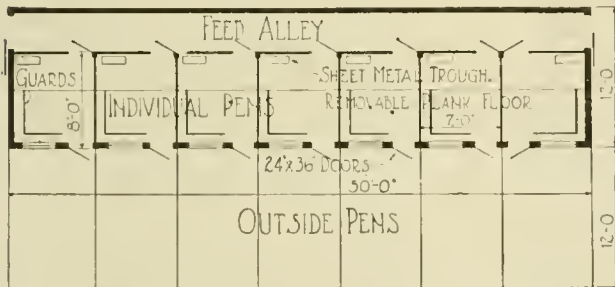
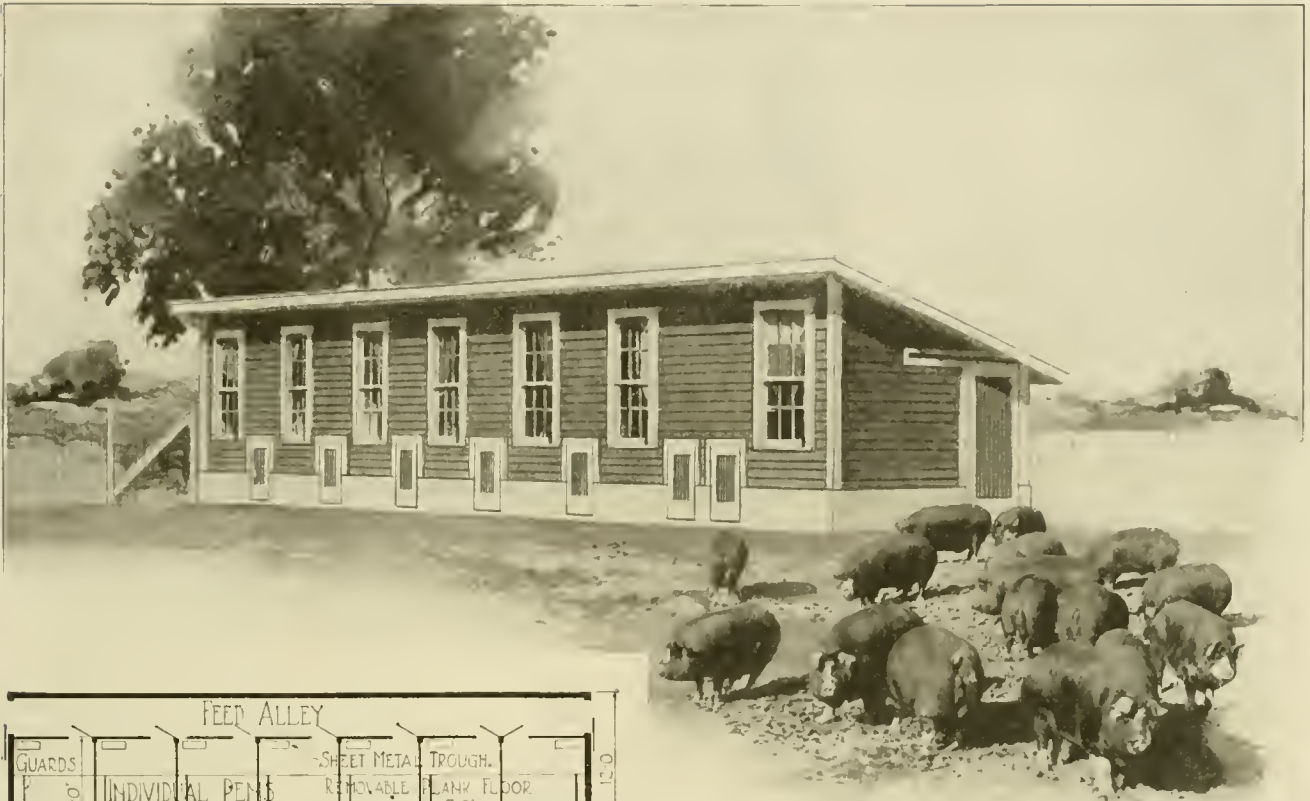
The floor plan has been carefully worked out to provide convenient feed alleys, hay chutes, etc.

In the cow stable the concrete floor is

In this plan the silo is 14 feet in diameter, which is large enough for the stable as it is designed. Most feeders prefer a silo about this diameter, it is better to have two small ones.



Main Floor Plan of Barn No. A272 H.



Winter Hog House. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$4.00 per set. When ordering, ask for Design No. A307 H.

Winter Hog House

This splendid little winter hog house, A307, was designed to supply winter comfort for pure bred breeding sows like those shown in the illustration.

It is a small affair, being only 12 feet in width and 50 feet in length, but it provides seven comfortable pens for brood sows, where they may be kept on suitable feed during the winter and where the pigs may be farrowed and kept warm until they are several weeks old.

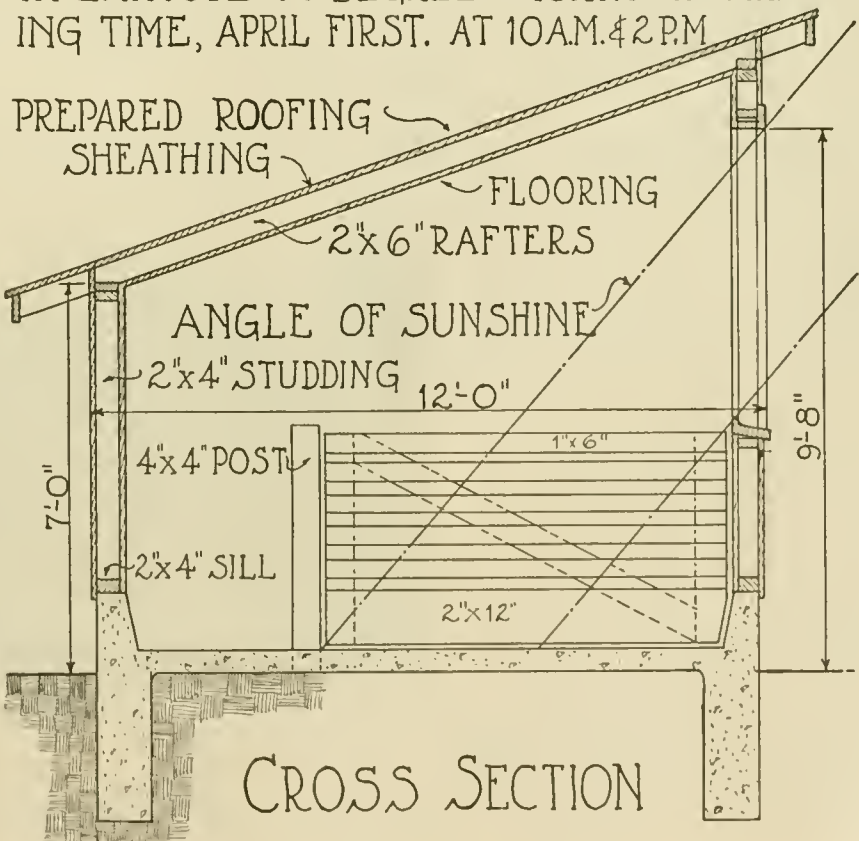
There are side doors to the south which open into the outside pens to give them considerable run for exercise.

The foundation of the building is of concrete with supporting walls which are connected by building them solid with the concrete floor. The walls project a foot above the floor, to protect the pigs against cold draughts, as shown in the cross section drawing.

An alley extends through the building from one end to the other. This alley is on the north side under the low slope of the roof. On the south side the windows are built high to admit plenty of sunshine directly onto the nests in winter. Each pen has two doors, one of which opens into the alley and the other into the small yard, so that the brood sows with their litters may be easily transferred from one pen to another or turned out as becomes necessary.

The concrete floor is made level, but each pen is provided with a wooden platform, which holds the straw and keeps the pigs well up from the cold concrete. Also each pen has a guard rail to protect young pigs.

THIS HOG HOUSE IS DESIGNED FOR LOCATION IN LATITUDE 44 DEGREES NORTH AT FARROWING TIME, APRIL FIRST. AT 10 A.M. & 2 P.M.



CROSS SECTION

Fifty-Six Foot Dairy Barn —Design A259 H

A good sized cow barn is offered in this design.

The floor is of concrete, with the most approved mangers, gutters, and manure alleys for the stabling of dairy cows. There is a driveway through the center for supplying roughage for feed and straw for bedding.

It is desirable in all stables as large as this to have several box stalls, because dairy men always have use for them.

Provision is made for removing the manure and litter to the manure carrier every day, as this has been proven to be the best as well as the most economical way of disposing of the manure.

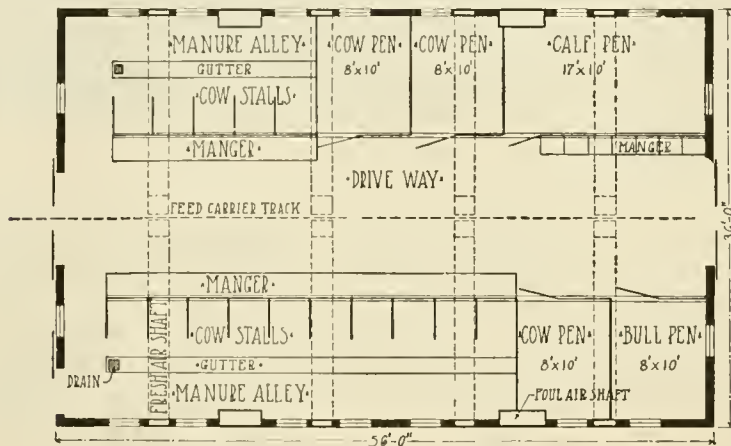
Dairy farmers are learning the value of cow stable manure, and they are making so much better use of it than they ever did before that manure conveniences around the stable are greatly appreciated.

A good stable with a manure carrier and a manure spreader properly handled will increase the grain yield of the farm each year, while the dairy is paying all the expenses of running the farm.



LARGE GAMBREL-ROOF COW BARN

A 56 by 36 foot cow barn designed with extra conveniences and extra generous allotment of space per cow. There are 15 cow stalls besides 5 large pens. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. When ordering, ask for Design No. A259 H.

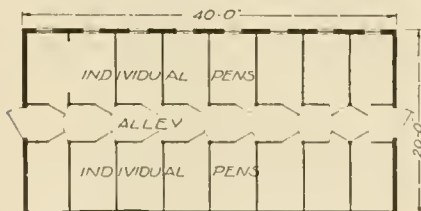


Floor Plan of Barn No. A259 H.

Sixteen Pen Hog House—Design A257 H

A hog house with very small pens for special show pigs is shown in design A257 H.

These pens are only 5 feet wide by 8 feet in length with a 4 foot alley between, but it gives pens enough to divide up a lot of show hogs in such a way that the best may be easily selected out for selling or for show purposes.



Interior Arrangement of Hog House No. A257 H.

poses. It is a special plan that will appeal to breeders of high priced hogs.

With a very little altering, these pens can be used at farrowing time and probably would be used for that purpose on almost any stock farm.

Such a building is supposed to be placed near the regular hog house with a runway to transfer hogs or pigs from one house to the other.



SIXTEEN PEN WINTER HOG HOUSE

A well built saw-tooth hog house, 40 by 20 ft. on the ground, which contains sixteen individual pens. This is a suitable house for show stock. We can furnish complete blue-printed working plans and typewritten specifications for only \$4.00 per set. When ordering, ask for Design No. A257 H.

How to Make Putty Set Quick

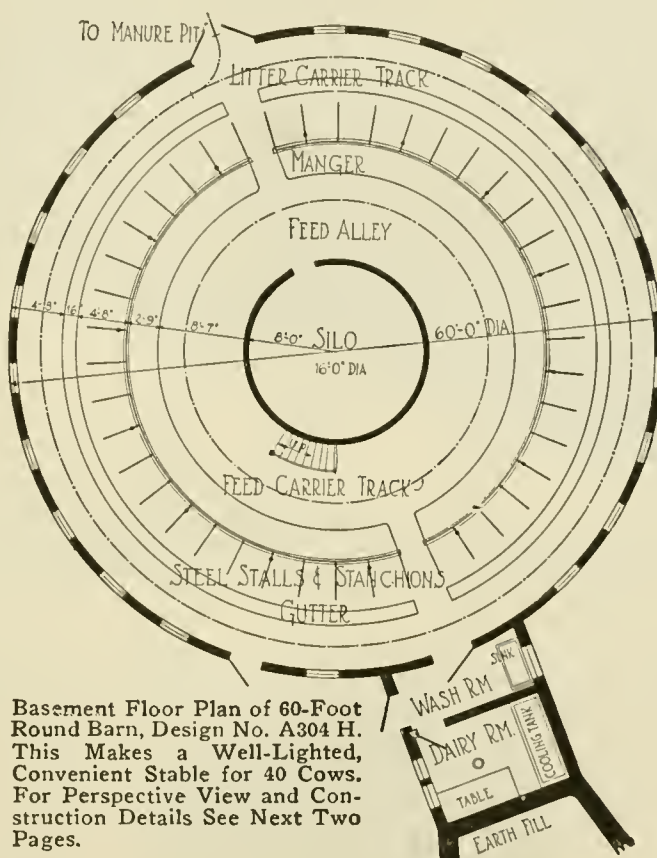
Proper glazing is an important item in doing work for discriminating folks, and to get it well done and insure it being in good shape when it reaches the job it is often well to have it done right in your own shop, or on the job. With rush orders, especially, there is often trouble because the work is handled before the putty has hardened. Putty, like cement, is a bit slow about hardening, and this fact is too often overlooked. Some who are awake to this matter make it a point to use a quick-setting putty, and sometimes for the sake of quickness in the setting they sacrifice quality in the substance. Putty is made up of whiting and linseed oil, to which may be added certain coloring matter. Generally raw oil is used, but a pointer one putty maker gave is that by using boiled oil the putty will set in much shorter time than when mixed with raw oil.

Featuring A Model 60-Round Barn with Basement

The silo is located in the center of the barn, where it occupies the space that is least valuable for other purposes, and at the same time forms a support for the roof. The silo is of the home-made type, built all of wood and that, too, of stock material, that the builder or farmer can purchase anywhere. The round construction gives great strength on account of the bracing effect resulting from the concentration of the framing timbers supporting the roof. As shown in the details, there are no tim-

The concrete footings are placed below the frost line and to solid ground. They are 24 inches wide and 12 inches thick. A concrete wall extends from the footings to a height of 4 inches above grade. Then a hollow tile wall is built to 8 feet 8 inches above the stable floor. Hollow silo blocks make a fine tile for a wall of this kind as the outer surface of the tile has a slight curve, which gives

The silo is constructed of ordinary 3½-inch flat batts and 4-inch flooring. The hoops are made of eleven thicknesses of flat batts, according to the details and stand 2 feet on centers. The lower three of these hoops are anchored



Basement Floor Plan of 60-Foot Round Barn, Design No. A304 H. This Makes a Well-Lighted, Convenient Stable for 40 Cows. For Perspective View and Construction Details See Next Two Pages.



A Model 60-Foot Diameter Round Barn with Sanitary Tile Walled Basement to Accommodate 40 Cows. Milk Room is Built of Concrete Underneath the Bridge to Hay Mow Floor. The Round Barn is a Winner—Gives 25 Per Cent More Accommodations at the Same Cost. We Can Furnish Complete Set of Blue Printed Working Plans and Typewritten Specifications for Only \$12.00 Per Set. When Ordering, Ask for Design No. A304 H.

to the concrete footing with six $\frac{3}{4}$ -inch by 6-foot 6-inch anchor bolts. These bolts are embedded 18 inches into the footing.

The flooring is placed perpendicularly both inside and outside, with the result that the ensilage follows the grain of the wood and will settle more evenly and freely.

Farm Scale and Scale House— Design A187 H

The scale house, Design A187L, shows a four-ton scale with a platform 8 feet wide and 14 feet long. The building has a 14 by 16 foot base, with doors at each end 12 feet high to permit a load of hay to be driven onto the scales and weighed and driven off at the other end.

To make the scale available for weighing live stock, a heavy fence to hold the stock on the scale is needed. It should be made heavy with 4 by 4-inch corner posts, hooked together at the corners with heavy blacksmith made hooks. The fence is made of four panels to facilitate handling. The end panels have gates in them to let the stock in and out. These panels



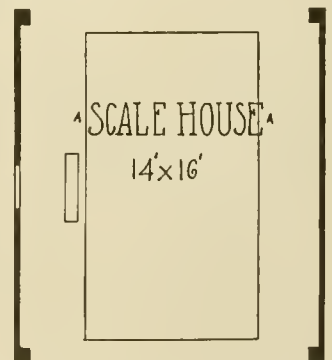
SCALE HOUSE

A neat, inexpensive building that should be on every farm. Size, 14 by 16 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00. When ordering, ask for Design No. A187 H.

are well cross-braced and the gates are made heavy to stand the butt of a fractious bull or the crowding of steers. A scale like this is necessary on every large farm. Too much stuff

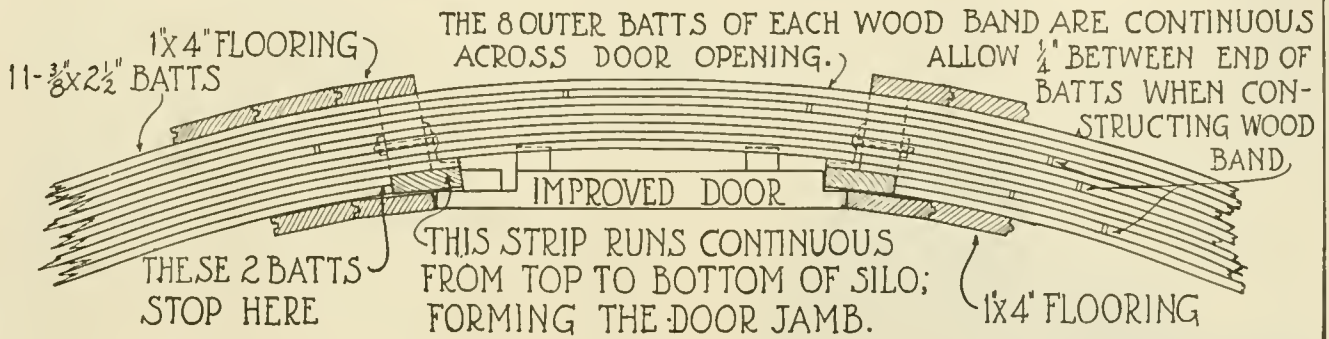
is bought and sold by guess weight.

In feeding stock for gains, it is a great satisfaction, as well as a direct benefit, to know what gains the stock are making, always with a view of changing the rations to produce quicker results. For this kind of



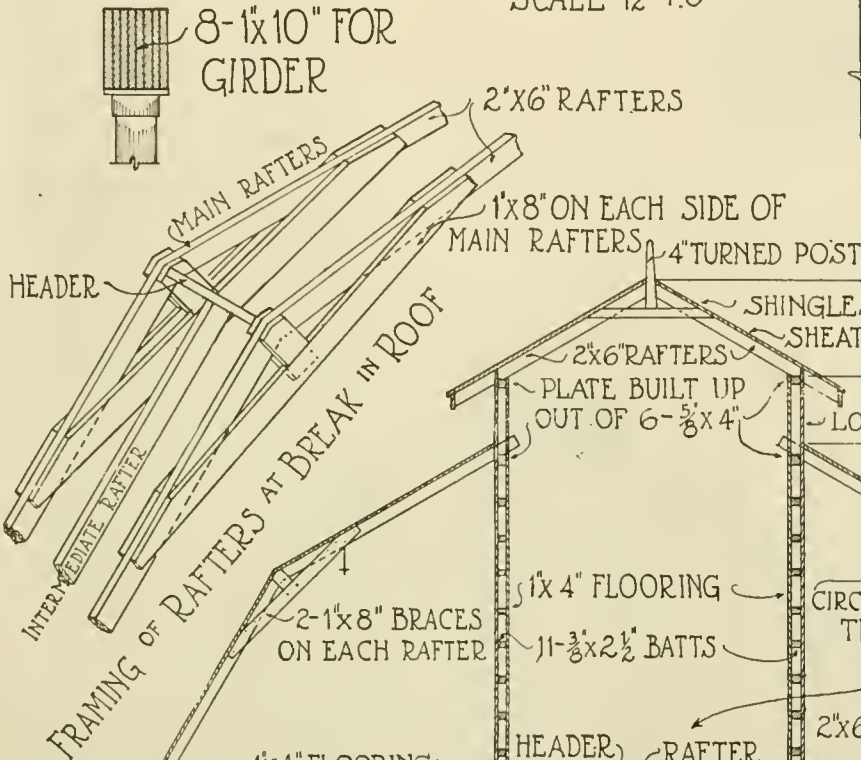
Ground Plan of Scale House A187 H.

weighing, the scale house should have a lane at one side, with pens for the control of animals that have been weighed, and other animals waiting to be weighed. These pens need not be large, but they should be conveniently arranged to get the stock in and out.



DETAIL AT SILO DOOR

SCALE $\frac{1}{2}$ "=1'-0"



DETAIL OF DOOR JAMB

SCALE 1"=1'-0"

CROSS SECTION OF ROUND BARN

SCALE $\frac{3}{32}$ "=1'-0"

Gothic Roof Barn—Design A280 H

Farmers who want a distinguished looking barn—something out of the ordinary, that is at the same time strong

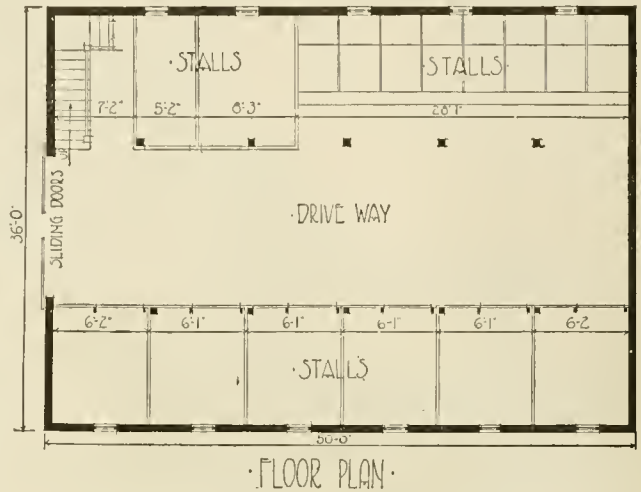
and practical—will like this Gothic roof barn. The rafters start from the plate and curve to the peak, where they meet at a sharp point. The main rafters are placed 6 or 8 feet apart, according to the size of the barn, and

they are tied together by 2x4's, running crossways. The 2x4's are set in $\frac{7}{8}$ of an inch and are nailed and toe nailed like girths. $\frac{7}{8}$ -inch strips, 4 inches wide, are nailed to these girths, reaching from the plates to the peak, to support the roof boards in lieu of the usual number of rafters. The outer



GOthic ROOF HORSE BARN

A practical barn of striking appearance, 50 by 36 feet on the ground; has strong self-supporting curved rafter roof. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$7.00 per set. When ordering, ask for Design No. A280 H.



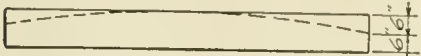
Arrangement of Gothic Roof Horse Barn.



Photograph taken during construction in Washington of Gothic roof barn, Design A280 H. Notice how main rafters are constructed; the curve is sawed out of 12-inch boards and these segments are nailed four together, breaking joints.

surfaces of these strips come flush with the outer edges of the rafters. These girths and 4 inch strips are for the support of the roof boards, which are put on in the usual way.

The rafters are built up of $\frac{7}{8}$ -inch strips, cut out with a band saw in seg-



Curved Rafters are built up out of $\frac{7}{8}$ by 12-inch boards cut to proper radius.

ments to fit the curve. A pattern is first made, giving the curve, and the curve is marked on the barn floor and outlined with blocks. The rafters are built up to these on the barn floor before being hoisted into position.

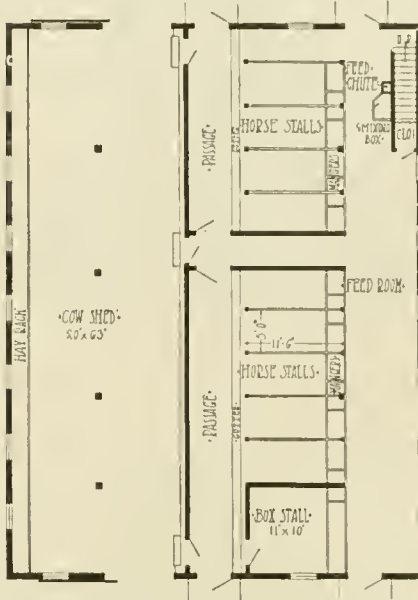
An advantage claimed for this style of roof is that it is free from trusses or braces or cross timbers, so that the mow is left perfectly free, and the shape of the roof gives it sufficient strength to stand heavy winds, notwithstanding the apparently light frame work.

The lower part of this barn is built the same as other frame buildings with the variations according to the kind of floor plan required. The main features are large mow room, and a very neat, attractive general appearance.

General Barn with Bridge— Design A146 H

A style of barn that is very much used is shown in plan A146L. A peculiarity of this style of barn is what is commonly termed a double thresh-

ing floor. In some of the larger ones the threshing machine is set first on one side and then on the other, for



Ground Floor Plan, Barn A146 H.

convenience in getting the grain to the machine. The bridge from the bank to the second floor must be stronger than common barn bridges, because it spans the space between the barn and the bank and it leaves a runway for cattle along the bank side of the building.

In this plan the cows have no stalls,

but are stabled in an enclosed shed with a feeding rack the whole length of the side, so arranged that it may be filled from the mow above. Several removable racks for feeding grain may be placed anywhere in this shed, and a water trough with an everlasting supply of good pure water will hardly freeze in here.

There are many points of convenience about a barn built after this plan, one of which is the facility for getting all around it. Gates, fences and retaining walls for the bank offer opportunities for stock pens in almost every corner without interference with the barn proper. The entrance to the barn being overhead, the whole ground space around the barn is left free to handle stock. Horses, cows, sheep and hogs may all have different quarters and be kept separate, very much to the advantage of the stock and at a great saving of time. The dampness, which is a bad feature of most bank barns, is obviated in this plan because there is a circulation of air all around.

How to Make Corn Crib Rat-Proof

One way to build a rat-proof corn-crib is to set the crib on posts 22 inches from the ground and place glazed sewer tile 24 inches long around the posts before the crib floor is laid. The tile will settle enough so that the crib will rest on the posts. With the posts incased in tile it is impossible for rates to climb up the smooth surface and into the crib.



GENERAL FARM BARN WITH BRIDGE TO MOW FLOOR

A businesslike barn, measuring 48 by 64 feet. Contains shed for loose cattle, besides stalls for 10 horses on the ground floor. Mows under gambrel roof are of great capacity. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. When ordering, ask for Design No. A146 H.

How to Build Ice Houses

In the summer time, every farmer wants an ice house with plenty of ice in it, but conditions at that time of the year render the building and filling of an ice house exceedingly difficult. Then, when winter comes around, it is cold enough without it. So the seasons come and go and the farmer's hair turns gray before he gets around to it.

The fact is, an ice house may be built easily and quickly and without spending a great amount of money. Of course, a man wants a design to work from, so the building will have some style about it when finished. In planning a farm building, it is easy to lose sight of the fact that a well-built ice house will cost no more than a make-shift affair. Every well proportioned and properly constructed building adds a great deal to the value of the property.

Take one of these ice house plans to the lumber dealer and get his estimate of the amount of material required to construct it, and don't forget to tell him that you intend to paint it and that you want it to look right when it is finished.

Building Ice Houses and Storing Ice

It is easy to keep ice all summer, if you know how. When ice is stored away for summer use and leaks away before it is wanted, there is a reason for it. In the first place, there must be a sufficient quantity of ice together to keep cold, and there must be protection against warm air, and there must be no leak in the roof.

Some of the first farmer ice houses were built underground, or partly so. It often happened that drainage was imperfect and that water accumulated in and around the bottom of the house and melted the ice, so that by the middle of summer, sometimes even before the month of June, the ice would all be gone.

Years ago it was considered necessary to make very expensive walls to keep the ice from melting, and a great many experiments have been conducted for the purpose of finding out the best way to build ice houses. The right principle of refrigerator building has confused builders of ice houses, and some of them have not yet recognized the difference.

An ice house is intended to preserve ice, while a refrigerator is intended to make use of it, economically, of course, but when a piece of ice is put into a refrigerator it has a mission to perform. It is required to take the heat out of other material, to preserve food products and it must dissipate itself in the process, while ice is placed in the ice house to stay, to be preserved until wanted for use.

An open shed will preserve ice, or it may be piled up in a field and kept all summer by simply putting a cover over it to keep off the rain, and an inner cover of sawdust to keep out the air. Such a crude way of keeping ice is necessarily wasteful, but not to the extent popularly supposed.

It is quite possible to put a cube of ice 12 feet in diameter in a cheaply constructed building and so pack it with sawdust as to keep it in a very satisfactory way until wanted during the

summer months. The roof must be tight, because water dropping often in the same spot will bore a hole through the sawdust covering down to the ice; warm air will follow, and we all know that air must be kept away from ice or it will melt rapidly.

Drainage is another very important consideration. The bottom must be airtight, but it must be porous enough to allow water to percolate through. For this reason a bottom of rough stones covered with cinders and the cinders covered with a foot of sawdust makes a good bottom. A very satisfactory substitute is made by laying small, round poles in the bottom of the ice house, covered with straw and the straw covered with sawdust about a foot deep. It is impossible for the air to come up through a foot of wet sawdust in sufficient quantities to do much harm.

There is a good deal in packing the ice in the house to make it keep well. It should be put in during cold weather and all the chinks carefully filled with broken ice and the whole mass well frozen together by pouring on water. By doing this very carefully, the ice can be frozen together almost solid, so the air will all be forced out.

There should be a space of a foot between the ice and the sides of the house all around and this foot filled in with sawdust tamped down. The sawdust should be at least a foot deep on top of the ice; 18 inches is better.

A great deal of ice is lost during the spring months, when the weather is getting warm, but not warm enough to require the use of ice in the refrigera-

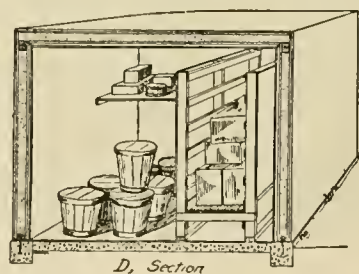
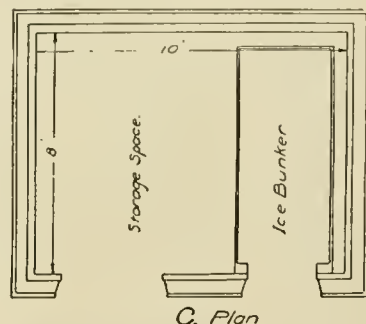
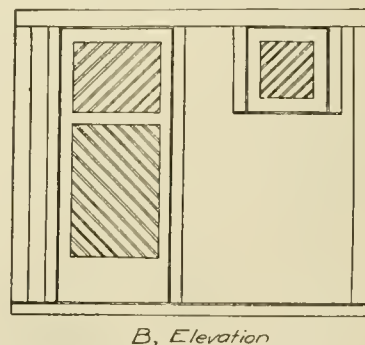
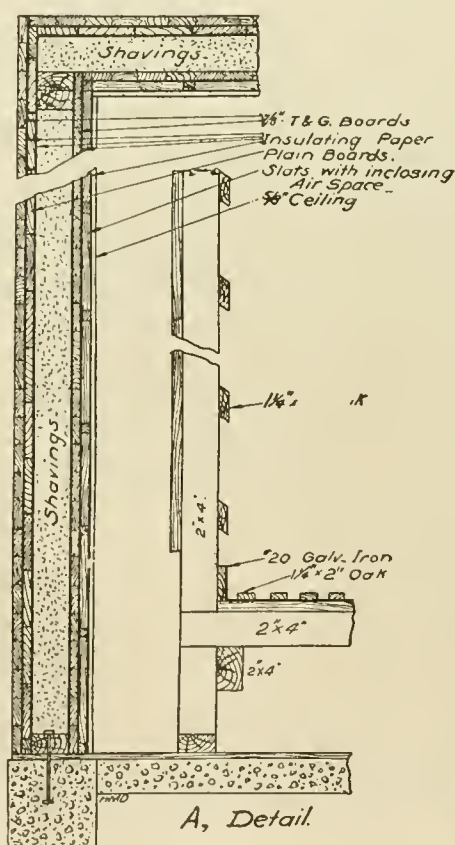
tor. During these weeks, the ice house is forgotten, and it melts a little and settles. The settling process opens cracks in the wet sawdust and some of these cracks will extend through to the ice. After the house is filled and covered with sawdust it should have attention at least once a week. If the sawdust is kept packed down well all around and on top, the ice cannot melt very much.

There are other details to think about, such as ventilation and shade. It is a great help to have the house shaded by a large tree or another building. When the sun beats down hot on top of the roof, the temperature inside the building is a great deal higher than it would be with the roof shaded. If shade cannot be had, a small opening in each gable will induce a current of air and help materially.

In choosing the location, convenience in using the ice should be considered in preference to convenience in filling the ice house, because the filling is done in a day or two, whereas the unloading process occupies several months and requires innumerable trips between the kitchen or dairy and the ice house.

Dairy Refrigerator Plan

The details show the plan for building a refrigerator 8 feet by 10 feet inside. The best place to build it is on one side of the dairy room, leaving space to walk and clean all around it.



Diagrams showing cross section and details of construction of a farm refrigerator: A, Detail of wall construction and ice bunker; B, front elevation; C, floor plan; D, sectional view.

The floor is made of good concrete, which projects an inch or two outside of the wooden frame of the refrigerator. In this concrete is imbedded a strip 1 inch thick and 4 inches wide, on which to start the framework. Bolts are set upright in the concrete which project through this inch strip and through the 2x4 sill as shown in the "A" detail.

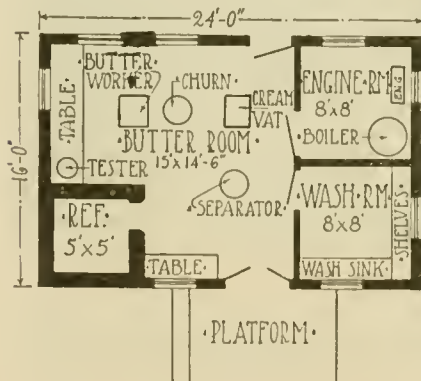
A framework of 2x4's is then constructed, leaving two door openings, one of which is 2 feet 10 inches in the clear for constant use, and the other is narrower and shorter, for putting in ice twice a week, as shown in figures B, C and D.

Tongue-and-groove boarding is nailed on the studding and the space is filled with shavings as the boards are put on; the shavings being tamped to pack them. This construction is the same on all sides and the top. Outside of this one course of boards is a covering of insulating paper, carefully put on to avoid leaving openings to admit air. Outside of the paper is nailed another boarding of narrow matched stuff. Over this insulating paper is nailed $\frac{7}{8}$ -inch strips to form an air space before putting on the last layer of paper and the $\frac{5}{8}$ -inch ceiling. The doors must be very carefully made to make them air tight. In fact, the whole refrigerator calls for the very best material and the best workmanship. A carpenter must be employed for this job who knows how to make a tight joint, and he must thoroughly appreciate the importance of applying his knowledge to every square inch of the work.

Such a refrigerator on the farm will be a great comfort if it is properly constructed. It will solve the problem of how to keep butter, lard, eggs and fresh meat during the hot weather. It may be made to pay for itself by selling fresh meat to the neighbors in hot weather, and if a farmer is commercially inclined, he can buy eggs while they are cheap and hold them in his cold storage refrigerator until fall and get a good price.

Farm Creamery—Design A237H

Where a good many cows are kept and butter is manufactured on the farm, a good dairy house is absolutely necessary. The size of the dairy farm and the expense of building a house for the machinery and general equipment must, of course, fit the size of the business. In some sections of the country farmers prefer to work up the milk on the farm



SMALL FARM ICE HOUSE

Building 12 feet square on the ground; has insulated walls and regulation ice house doors. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A137 H.

rather than to send it away. For making either butter or cheese, a steam boiler is one of the first essentials. Nothing does the heating so well as live steam. Nothing else will cleanse milk cans and other utensils like steam. Some kind of power is necessary to drive the churn and to do the pumping. This power may as well be steam power as anything else, especially when steam is needed for heating and washing purposes.

The building may not be expensive, but it should have a cement floor with carefully constructed drainage. The waste from making butter or cheese is not pleasant after it has lain around the premises for a while. One of the greatest profits in working up milk at home

is the feeding of skimmed milk while it is warm from the separator. When cheese is made, the whey is not a valuable food product. It is worth a little something, however, in connection with pasture and grain.

The arrangement given in the plan makes a handy little butter factory for the farm where from fifteen to twenty-five cows are kept. The cows and calves raised on the by-products from making butter, and the value of the fertility which in this kind of farming is kept at home, constitute the greatest profits—profits that will be appreciated more as soil fertility become more exhausted and better farming methods are more generally understood.



Floor Plan of Ice House A137

Cheap Ice House—Design A137H

About the cheapest way of building an ice house that looks all right is shown in plan A137H. It is 12 feet square on the ground and 12 feet high to the eaves and the roof is steep enough to give head room for packing the ice clear up to the plate or above.

The house will hold a cube of ice 10 feet thick and leave room for a foot of sawdust all around. There are three hinged doors in front and inside of the doors are loose boards to hold the sawdust in place. These boards may be taken out one at a time as the ice is used.



FARM CREAMERY AND BUTTER FACTORY

One-story frame building 24 by 16 feet, containing butter room, refrigerator, wash room and engine room; all arranged most conveniently. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. A237 H.

Combined Dairy and Ice House —Design A245

A very neat and convenient farm dairy and ice house is shown in this

creasing the profit and convenience of the farm.

The building is 26 by 14 feet, with a porch 8 feet wide. This front porch adds a great deal to the appearance

only additional cost is the roof and the two corner posts. In putting up farm buildings, a little attention to appearances adds a great deal to the selling value of the property.

In this plan, the ice and sawdust are put in at the back of the building. After the ice is packed for summer, this door is shut and made as near air tight as possible. When the ice is taken out during the summer, the door into the creamery is used.

The ice house is big enough to hold a block of ice 6 feet wide and 10 feet long, allowing a foot of sawdust all around the ice. It depends upon the size of the dairy whether this will be big enough or not. However, the partition can be moved to make the ice house 12 feet square or the building can be lengthened that much. The

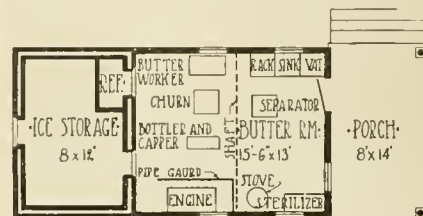


NEAT APPEARING COMBINED DAIRY AND ICE HOUSE

Building 26 by 14 feet containing 8 by 12-foot, double-wall ice storage compartment and 15' 6" by 13 foot butter and creamery room. The sheltered loading platform is a great convenience. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. A245 H.

design. It gives an opportunity to build in such a way as to add to the appearance of the property, while in-

of the building without adding very much to the cost, because a loading platform is necessary anyhow, so the



Floor Plan of Dairy and Ice House
No. A245 H.

design is very neat and attractive, and the idea is a good one.

The refrigerator may be built in the corner of the ice house, as shown in the plan, or a separate box refrigerator may be built in the dairy room.

The separate refrigerator is the most satisfactory, but there is a little more work in filling it, however, this is compensated for by the saving in ice. The main thing is to have the ice to use when it is badly needed in hot weather.

Cheap Storage Barn—Design A281 H

Barn A281L looks home like to half the farmers who see this photograph. It is useful for holding sheaf grain from harvest until threshing time and for straw and grain and implement storage the balance of the year.

It has a stone wall foundation and it is built on a raise of ground within easy reach of the stock barn or dairy stable.

There are grain bins built like boxes along one side of the threshing floor. These bins are 8 feet high and 8 feet wide, built of 2 by 4 for framework and ceiled with No. 2 matched flooring.

A girt runs along over the top of

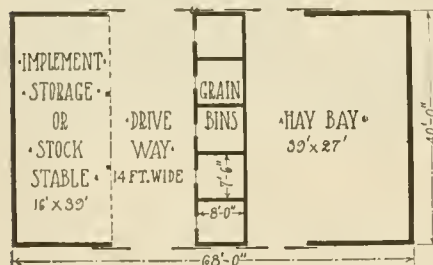
the bins on the driveway side, which may be used as a grain bin timber, but it is not necessary to do so. It is better to make the grain bins entirely separate from the barn, leaving a clear space at each end to walk through. The grain bin floors should be made of concrete, on account of rats and mice.

The plans for this barn call for plank frame construction, because every stick may be bought at the local lumber yard without any delay, and for the further reason that plank frame construction has proved satisfactory for barns of this type.



LOW-COST STORAGE BARN

An Inexpensive, Common Sense Grain or Hay Storage Barn. Size, 68 by 40 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. A281 H.

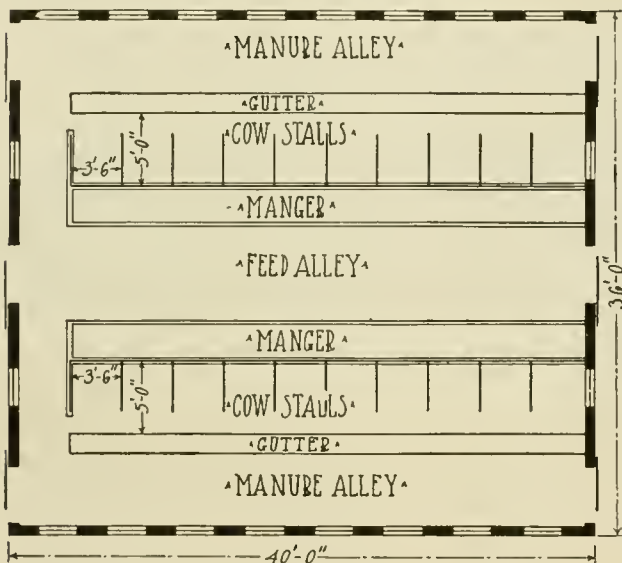


Floor Plan of Barn A281 H.



MODERN SANITARY GABLE-ROOF COW STABLE

A sensible design 40 by 36 feet, to stable 20 cows. Concrete floor is molded to form alleyways, gutters, stalls, mangers and feed alley, all in one piece. Extra well-lighted and ventilated superstructure provided. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. A277 H.



Floor Plan of Cow Stable No. A277 H.

Gable Roof Cow Stable —Design A277 H

This design provides for a concrete cow stable floor with a lightly constructed sanitary building placed over it.

One way to put up a building of this kind is to make the floor with a retaining wall to go below frost. The concrete floor work in this case is made almost the same as a sidewalk. The ground is carefully graded according to the detail plan. It is then covered with cinders in the usual way, pounded down and trued to grade by testing with a leveling straight edge.

On top of this foundation, concrete, mixed as for sidewalks, is spread between 2 by 4s, staked down to define the divisions, and a surface mortar is applied with a trowel as soon as the

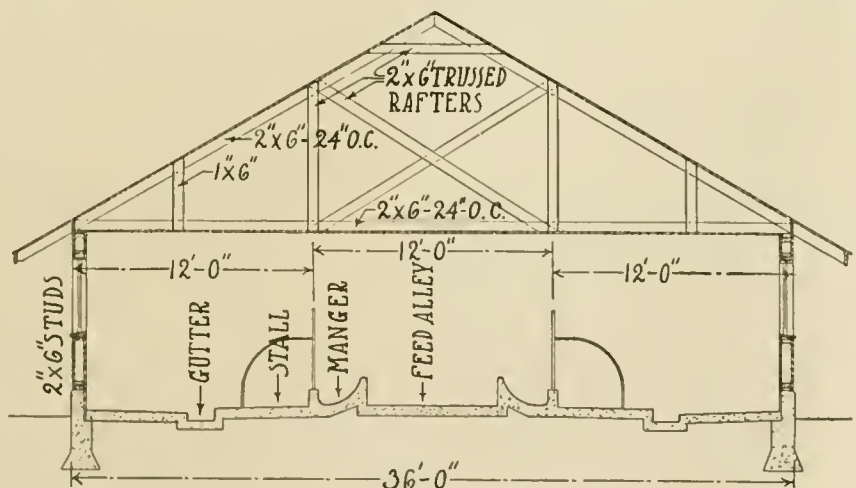
coarse filling of concrete takes on its initial set.

A cow stable floor is a little more particular than sidewalk construction so that the adhesion of the surface coat must be obtained with greater care.

Sidewalk flags usually are separated by a strip of tarred roofing. In building a stable floor this is omitted for the reason that there is very little change of temperature in a cow stable, and it is not necessary to make provision for expansion and contraction, also stable blocks, if built close together, will prevent the liquids from seeping through.

The level floors of the alleys and the sloping stable floors are leveled and graded as per floor plan details, by lining up the wooden forms. Wooden forms for concrete work must have straight edges on top. If they are dressed smooth and jointed it is easier to do a good job.

In starting to lay a floor, like this or any other stable floor, it is much better to let the builder work alone for a day or two in laying out the job. The owner always loses when he permits hurry-up work the first day. It seems necessary to fool away about so much time in order to get started right. If the owner doesn't get nervous he will get better work and will be better satisfied when the job is finished. It is better to let the builder get acquainted with the proposition at his leisure, without several idle hands standing around waiting to be set to work.

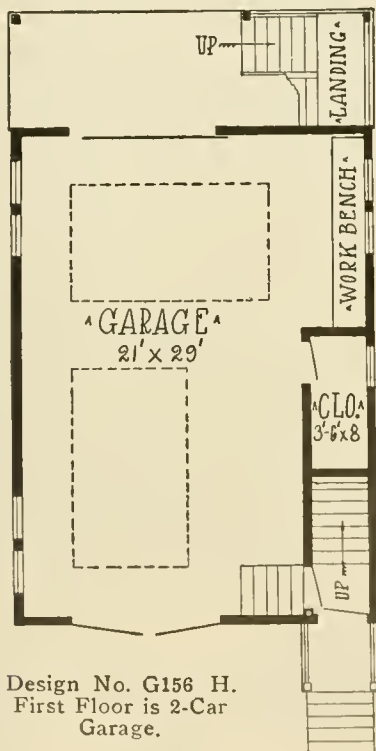


Section Through Sanitary Gable-Roof Cow Stable No. A277 H.



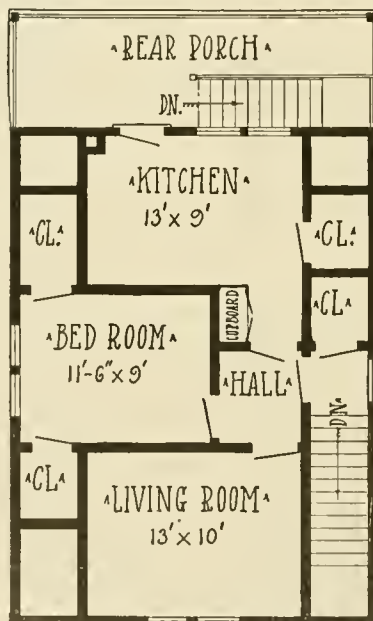
FARM GARAGE AND TENANT HOUSE

A useful, well-designed building to house two automobiles on the ground floor. The second floor has three fine living rooms and makes very desirable quarters for farm help. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. G156 H.



Farmer's Automobile Garage and Tool House—Design G156 H

A garage and machine shop with living rooms in the second story is a great convenience on a farm. The farm requires extra help, and farmers prefer married men, if they have accommodation for them. There are plenty of good men who prefer farm work to work in the city, but are driven to town because they will not put up with the inconvenience of living in the way they have to do in the country.



Second Floor is Convenient 3-Room Flat for Hired Man and Family.

This building is 21 feet in width and 29 feet in length, and the plan of the building gives storage for the cars in the front end, with work room in the rear. This work room is a good place for the farm engine. On most farms some kind of engine power is necessary. It may be a portable gasoline engine, or it may be a stationary steam engine. The steam engine is preferred by dairymen, because the boiler produces steam under pressure for heating and cleansing purposes.

Dairy farmers prefer a dairy room separate from any other building, but it may be placed just outside, so that the steam and power from the boiler and

engine may be easily carried to it. This building plan will help solve the engine house proposition, the farm garage, machine shop, pumping house and dairy, besides the farm labor problem. Automobiles are so common that the building of public garages and their management is getting to be quite a business in towns and cities. On farms the garage is a different proposition, because of the different combinations required. This plan has been worked out to include a number of features that will be appreciated.

The Farmer's Garage

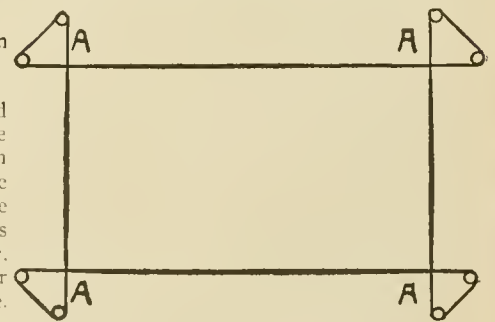
Because a farmer finds it necessary to do a great deal of his own repair work, his garage should be more elaborate than a building for the same purpose in town. The garage is a good place for the gasoline engine that drives the pump and other machinery. The engine room should contain a work bench and a pretty good set of tools for working iron. The outfit will depend on whether the farmer is a real mechanic or just an ordinary tinker. Some farmers can do a good quick job of repair work and save the expense of a regular mechanic, while another farmer can better afford to hire his mechanical work done and spend his own time with his live stock and other farm affairs. But in either case, some kind of a workshop is necessary on a farm.

Poultry Pointers

Hens need exercise.
Hens need sufficient sunlight.
Hens need a warm, comfortable home in the winter, but not too warm. Overcrowding reduces profits.
Hens' teeth are scarce, so a substitute must be furnished in the form of grit.
Pure, clean water should be available at all times.
Keep a clean litter of chaff and straw on the floor.

The Rule of Six, Eight and Ten

In squaring the lines for the foundation of a building, the following rule will be found very helpful: After the stakes are set and the chalk line drawn taut, take a 10-foot pole and measure off 6 feet from one corner on the line;



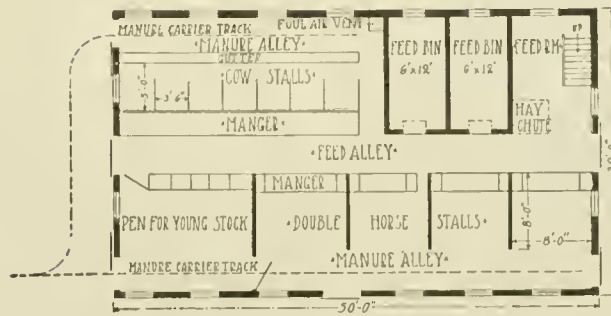
stick a pin through the line to mark the place. Then, on the other line, measure 8 feet from one corner and mark with a pin. If the distance is exactly 10 feet across between the two pins, the corner is square.

Young Stock, Horse and Cow Barn— Design A266 H

Farm barns answer the purpose best when they are specially designed for the kind of stock that is to be stabled.

In design A266L, provision is made for young stock, for cows, and for horses. There also is a good feed room with a hay chute overhead for convenience in feeding.

These horse stalls are 8 feet wide and 8 feet deep, measuring from the front of



Floor Plan of Barn No. A266 H.

the manger to the back of the partition. As horse stalls have no gutter behind them, or other means of determining where they leave off, it is difficult to give an exact measurement, but the stall partition is supposed to be 8 feet long and the stalls are 8 feet wide in the clear.

One manger is short enough to permit the attendant to crowd through to the feed alley, but this space is too small for a horse to go through.

The young stock are partitioned off from the horse department by a partition that runs to the ceiling.

There are doors to shut off the different alley ways, so the stock is not likely to get mixed in the stable. The horse and cow departments are as separate as they can be in a building of this size.

Ventilation is secured by the cupola that extends through the peak of the roof in the center. A cupola built in this way may act as a double ventilator. The round pipe that projects out through the top may be started below the stable ceiling to carry the foul air up through the hay mow and out at the highest point, while the square wooden part of the cupola acts as a ventilator for the hay mow. A cupola like this looks well on the top of a farm building.

There is a great deal in the way a building is designed and constructed to show up right in the completed building. As a finish it should be nicely painted in colors that blend properly together. A well proportioned farm building in both design and color is a pleasing object.

The roof on this barn is of the gambrel type without a curl at the eaves. This construction looks well on some barns because the general design seems to call for it. However, the finish of the roof at the eaves is more a matter of choice than necessity. There are many ways of doing the same kind of work.



VERY CONVENIENT FARM BARN OF MODERATE SIZE

A businesslike gambrel-roof design to stable 7 cows, 4 teams of horses and pens for young stock, besides 2 large feed bins. Overhead litter carrier runs through both stables. Size on ground, 50 by 30 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$6.00 per set. When ordering, ask for Design No. A266 H.

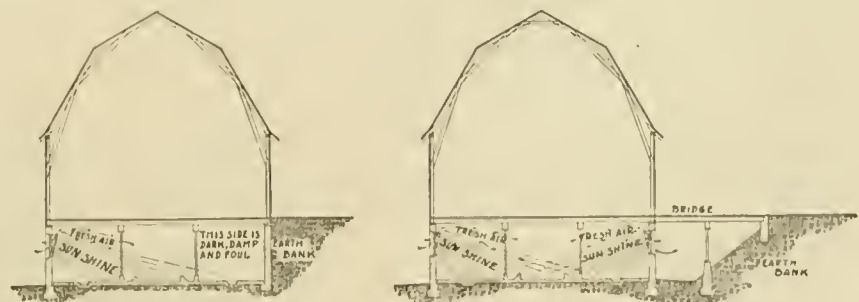
Modern Sanitary Bank Barns

The ordinary, old-fashioned stable under a bank barn was damp and warm when filled with animals in the winter time and it was damp and cool in summer. The warmth and coolness were agreeable, but disease lurked in both conditions of the stable atmosphere.

Since investigators have been looking into the germ troubles that domestic animals suffer from, attention has been directed to the objectionable features of these old-fashioned stable dungeons.

Anarchist germs prefer darkness to light. They thrive when the atmosphere is moisture laden. If the moisture comes from the breath of animals, they thrive all the better; it seems to act as a culture medium, to propagate the most undesirable of all cattle disease germs.

Sunshine and fresh air are the two principle preventatives. In this illustration the architect shows how to build a bank barn on sanitary prin-



WRONG WAY

RIGHT WAY

Two Methods of Building a Bank Barn

ciples—the bank is kept back away from the barn wall, and the upper floor is reached by a bridge.

Bank barns are not necessarily objectionable. Usually, they are built on an elevation where drainage may be maintained in spite of the usual barnyard proclivities to get muddy and stay muddy. Besides offering better sanitary conditions, this plan

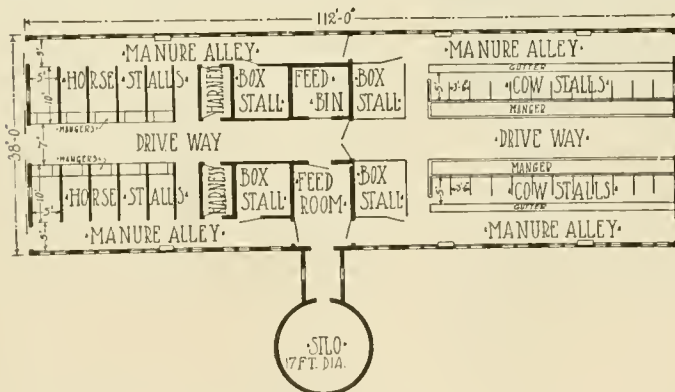
provides the best possible means for establishing warm winter corrals having gates and passage-ways leading all the way around the stable section of the barn.

In grading the side of the bank, the earth removed to make this passage way may be dumped in scraper loads to fill the pot holes and to grade up the corrals, lanes, etc.

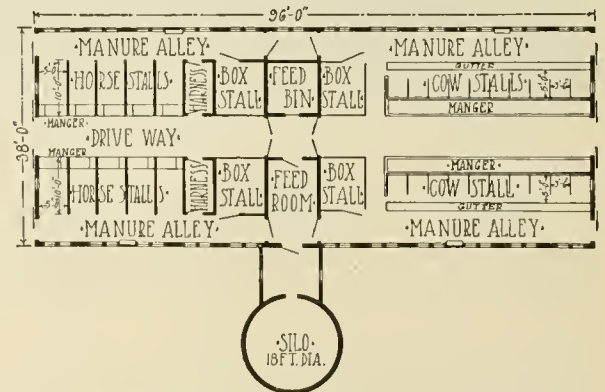


OUR POPULAR "ANY LENGTH" BARN

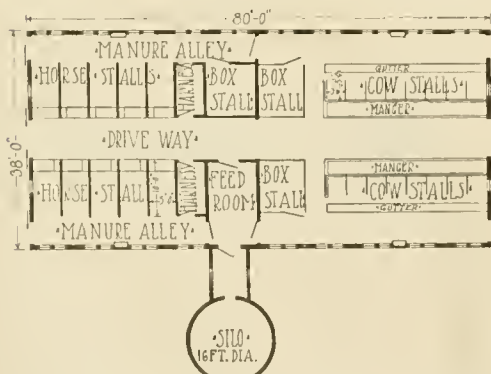
A favorite type of barn 38 feet wide and can be built any length the farmer requires. The floor plans illustrated on the opposite page, show recommended arrangements for five popular lengths, namely: 112 feet, 96 feet, 80 feet, 64 feet, and 48 feet. Above, we show a cross section view through this barn, showing how it is constructed. It has a strong self-supporting plank-frame roof; everything clear inside. We can furnish complete set of blue-printed working plans and typewritten specifications for this barn in any of the lengths illustrated at the very moderate prices quoted under each plan. When ordering, ask for Design No. A233 H. and mention length wanted.



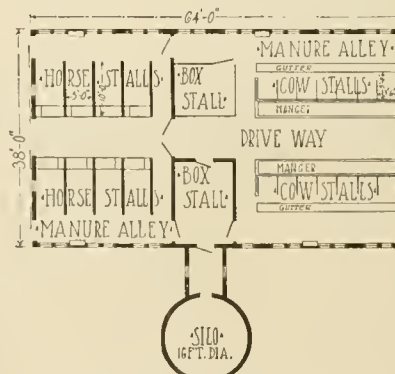
Arrangement of 112-ft. A233 H. Price of blue-prints and specifications, \$10 per set.



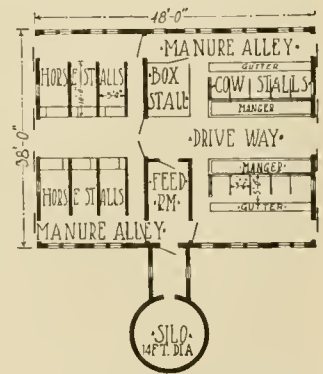
Arrangement of 96-ft. A233 H. Price of blue-prints and specifications, \$9 per set.



Arrangement of 80-ft. A233 H. Price of blue-prints and specifications, \$8 per set.



Arrangement of 64-ft. A233 H. Price of blue-prints and specifications, \$7 per set.



Arrangement of 48-ft. A233 H. Price of blue-prints and specifications \$5 per set.

A Barn That Can Be Made to Grow as Needed

Our Popular "Any Length" Barn—Design A233H

This barn is 38 feet wide and it is any length you chose to make it. The floor plans illustrated show lengths of 48 feet, 64 feet, 80 feet, 96 feet and 112 feet, respectively. Any one of these plans may be built and the barn extended later to add as much length as required.

This idea works out very well for a person starting in the dairy business. Cows are expensive, and it takes a long time to gather a large herd of good cows that may be depended upon to make a profit. A man may have ready cash to go out and buy cows, still he finds that time is required to get what he wants.

With this end in view, it is a good plan to arrange the barn at the start, so the extension may be made from the cow stall end. The chances are, the farmer would not wish to increase the number of horse stalls.

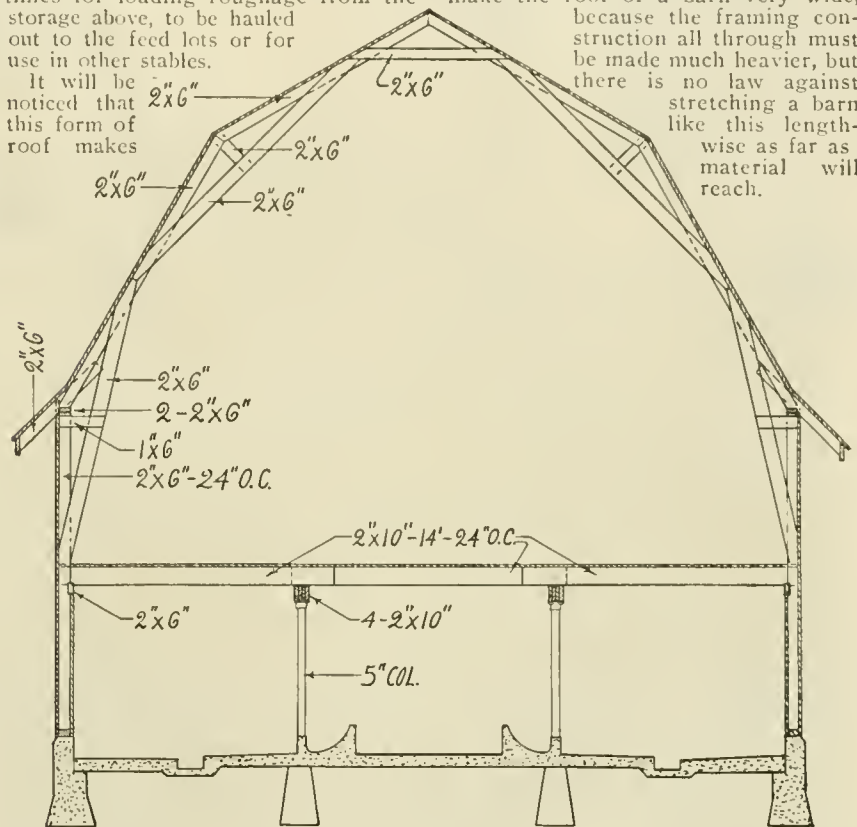
Where horses and cows are stabled together under the same roof, it is customary to run a partition to the ceiling, dividing the stable. These plans provide for a partition of this kind between the horses and cows, with doors so arranged that litter carriers and manure carriers may pass through to any part of the stable.

There is a center driveway, 7 feet wide, between the mangers, for delivering feed, either to the mangers or feed bins. Even with litter carriers, it is a great labor saver when a load

of feed may be driven directly to the spot where it is to be used. This same driveway comes in handy at times for loading roughage from the storage above, to be hauled out to the feed lots or for use in other stables.

It will be noticed that this form of roof makes

a great mow. For all sizes, this barn is kept at 38 feet, which is the most practical width. It costs too much to make the roof of a barn very wide, because the framing construction all through must be made much heavier, but there is no law against stretching a barn like this lengthwise as far as material will reach.

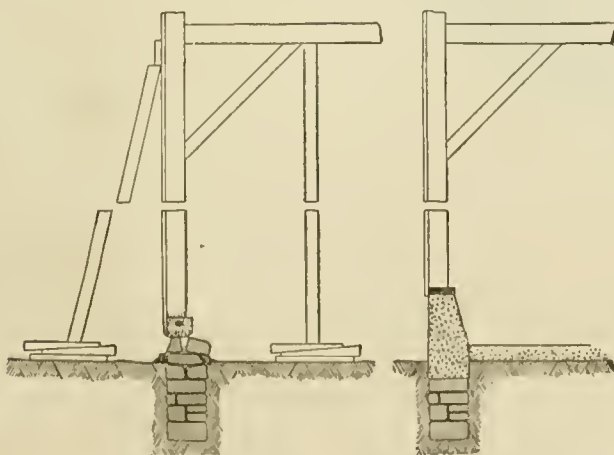


Cross section through "any length" barn, Design A233 H., showing method of construction. This makes a strong, inexpensive roof of big capacity. No timbers heavier than 2-inch planks required—all regular stock material.

Repairing Rotted Post Foundation

Farm sheds often are supported on posts without sills. These posts sometimes are blocked up with loose stones. Manure gets piled around

a great convenience, but as farm sheds are usually not very heavy, the elevating may be done by using a timber pry over a bait. When the work is done, the shed is in a better condition so far as under-pinning than when new.



Method of Replacing Crumbled Foundations with Concrete.

and the bottom of the post in time rots away.

The illustration shows how such posts may be jacked up, sawed off to where the timber is sound and supported by a good, solid concrete base. A jack screw or two would be

In a barn or shed with sills that have rotted away, it is better to take the sill right out and build a concrete wall up to the proper height to take its place. While the concrete is soft, imbed a 4 by 6 to nail the boarding to.

Best Finish for Concrete Floors

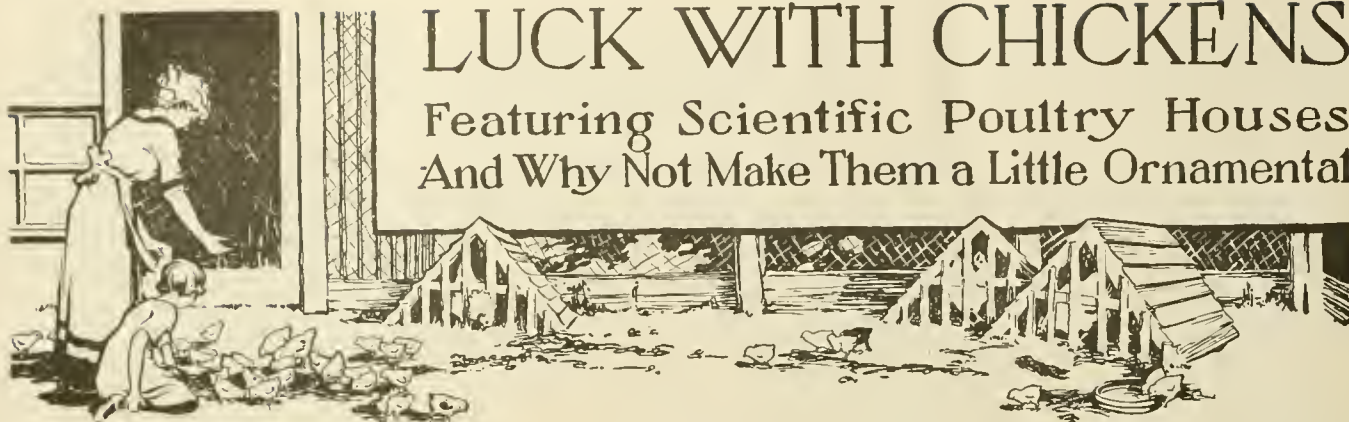
Appearances are sometimes deceiving, even in concrete. A fine-looking concrete floor is not necessarily one that will wear well. A nice appearance is given to a concrete floor by the use of small particle of sand and pebbles in the finish coat; but these break down. For long service, the best floor is one made with the coarse material near the top. After a while the floor wears down to this coarse material, and then looks like a terrazzo floor. It is quality rather than the high polish that counts in concrete floors, and it is a pity more manufacturers do not realize this. It is very hard to get a good-wearing finish and a good-looking finish at the same time, unless careful attention is paid to the selection, proportioning, and placing of the coarse aggregate.

How to Remove Rust from Furnaces

Hot-air furnace registers are very apt to rust during the summer, or if the house is left closed long at a time. To restore them to their original state without too high and artificial a gloss there is nothing better than asphaltum. A pint can of asphaltum blended smoothly with one gill of turpentine will provide enough to go over all the registers in an ordinary house and leave them looking bright and new with just lustre enough to be satisfactory.

LUCK WITH CHICKENS

Featuring Scientific Poultry Houses And Why Not Make Them a Little Ornamental



Model Homes for the Chickens

Shed Roof Poultry House Design A-314 H

A shed roof poultry house, 16 by 12 feet in size, is shown in Design A314.

It is constructed on the curtain front plan which supplies the most satisfactory ventilating system ever adopted in

the curtain. Thin five-cent cheesecloth is used for this purpose. Poultry writers sometimes make the mistake of calling it "canvas." Canvas means airtight or watertight. The windows might as well be boarded across as to fill in the openings with canvas.

The most approved ventilating windows have the muslin stretched over an inner frame, which fits into a heavier frame in such a way as to stretch the muslin tight and to permit easy removal for washing. When muslin is clean, the light gets through it as well as air. It looks cleaner and better to have the muslin nice and white.

As the season advances the upper windows are left open, as shown in the illustration.

The foundation is made of concrete for warmth and to prevent rats and mice and other vermin from getting into the poultry house.

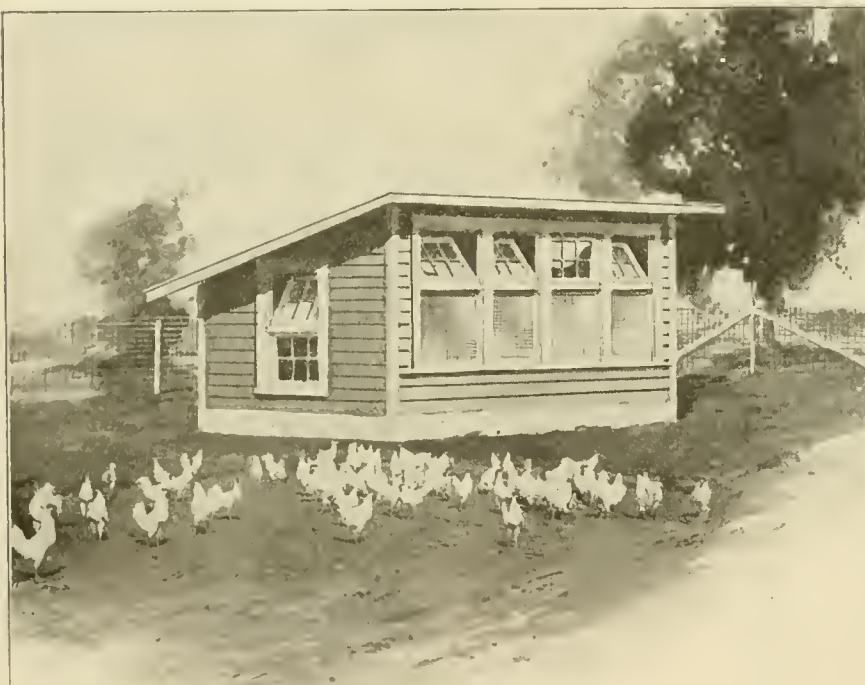
All the hen furniture is made easily removable for cleaning. The droppings board supports the nest boxes. The boxes may be detached from the under side of the droppings board; the droppings board may be unhinged, and the roosts lifted off, so that the whole outfit is easily carried outdoors for cleaning and sterilizing by the action of the sun.

This plan makes a convenient little poultry house for either farm or village where good poultry is kept for eggs in the winter time.

This poultry house is large enough to hold 25 or 30 laying hens. It needs about that many together in the winter time to keep warm.

In making this house warm for a cold climate, it is necessary to make the walls double. A light 2 by 4 sill is placed on top of the concrete wall and it should be bolted down; 2 by 4 studing is covered both outside and inside with building paper. The outside is finished with drop siding or clapboards. The inside is boarded with narrow matched siding without beading.

The roof is made warm the same as the sides, and in very much the same manner. Kiln-dried lining is very much to be preferred and should be thoroughly well nailed to prevent the joints from opening. The inside of a poultry house must have no cracks to harbor mites or lice.

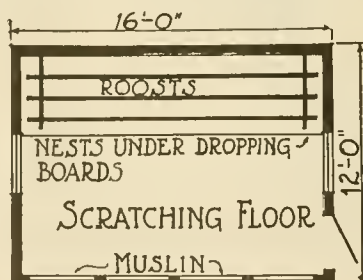


Shed Roof Poultry House, constructed on the curtain front plan. Dimensions 16 by 12 ft. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A314 H.

nish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A314 H.

a poultry house. As the illustration shows, the glass sash are up near the roof in the high front to admit sunshine directly onto the scratching floor late in winter when the sun is high up overhead.

In very cold sections of the country sash may be fitted into the lower parts of the window frames, but always one must be left open for ventilation through





Farm Poultry House. Size, 20 by 14 ft. We can furnish complete set of blue-printed working plans and type-written specifications for only \$3.00 per set. When ordering, ask for Design No. A338 H.

Farm Poultry House. Size 20 by 15 feet

A medium sized poultry house suitable for farm use is shown in Design No. A338.

It is 20 by 14 feet in size and is divided into two rooms, one for the general laying hen department and the other as a special room for incubating and brooding purposes.

The construction of this poultry house has been very carefully worked out along permanent lines. Farm poultry houses too often are carelessly built. Poorly constructed houses become so infested with vermin of different kinds that it seems better to tear them down and build new than to try to renovate them. Modern poultry houses are much better than the old-fashioned sort, and the breeds of poultry have improved to such an extent that better houses are becoming quite common.

This house is built with a good solid concrete foundation that goes below frost. The floor also is of concrete or lime. Some poultrymen prefer building a floor of lime. Ordinary

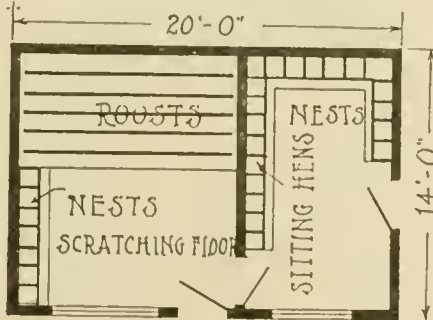
burned lime is spread over the ground several inches deep and pounded down and made level. Water is then thrown on the lime to cause it to slack. Enough water is used to slack the lime into a pasty mortar, and it is left in this condition until it dries and hardens. This kind of a poultry floor is not so hard as concrete and the chickens will scratch depressions in it in places in their efforts to uncover the grain that is scattered in the litter.

In digging up the ground, they get considerable lime, which goes to manufacture egg shells. If the original

lime is good and the slacking is nicely done, the floor is satisfactory for some time. If soft places develop and the hens dig clear through, it is easy to throw a little fresh lime and water enough to slack and fill the depression.

There are poultrymen who insist that this is the only method known to the poultry fraternity for making a faultless floor. This kind of a floor may be made to cover both of these rooms or only one of them, but there probably is no better way to make poultry floors for the benefit of the hens or young chicks, and it is a floor that will discourage rats and mice almost as effectually as concrete. This is one great advantage in using concrete or lime in the bottom part of a poultry house.

In building the walls, bolts are embedded in the concrete, which pass through augur holes in the sills. As the sills are put down, the top of the wall is spread with soft cement mortar, so the sills are embedded. The mortar is troweled up against the sills inside and outside carefully to prevent a draught.



Building Poultry Houses

There are a few general principles which apply to all poultry houses. In the first place, the location must be dry and it should be sheltered from the cold winds, not by placing the house at the foot of a hill, but by tree-belts, high tight board fences, or buildings. Cold air settles in low places. A low place, though sheltered from wind storms, is often more disagreeable to poultry than a bleak hill-top. Cold air slides down hill because it is heavier than warm air.

In regard to exposure, a south frontage is the best; next to south, front the house southeast or east. Chickens prefer morning sun to afternoon sun. They are early birds and want to see the first reflection of daylight.

On general principles a convenient poultry house is to be desired, because it saves work at feeding time. On the other hand, the colony house plan saves work by giving the fowls an opportunity to feed themselves to a certain extent. It is easy to figure how many steps are saved in the course of a week or a year by having the fowls carefully housed all under one roof, but it is not so easy to estimate the amount of feed that poultry will pick up in an orchard, where the colony houses are separated by distances ranging from 20 feet to a hundred yards, according to circumstances.

It is plain that no one plan offers all the advantages and it is equally patent that no other plan embraces all the objectionable features.

A building with a shed roof requires a little more material than a building the same size with a double roof, because the roofing material in both instances is practically the same and the drop in the double roof takes off just so much of the siding. To offset this, however, is the advantage of getting more sunshine into a house with a shed roof. To economize warmth in winter, it is a good plan to have the back of the house as low as possible. Some even build down to 3 feet. Unless the roof is quite steep, this manner of building leads to a good deal of stooping on the part of the attendant. If the roof is steep there is no material or space saved. Alley ways in poultry houses take up considerable room, but they also furnish storage for feed and implements.

The subject of ventilation has bothered poultry men more than any other one thing. It is extremely difficult to get up a circulation of air in a poultry house and you cannot have ventilation without circulation. Some poultry men claim to have solved the problem by leaving out all ventilating shafts and covering the openings with comparatively thin cotton; others leave the gable windows open and fill the roof space with straw.

Sunlight is necessary to fowls. It prevents diseases, and encourages cheerfulness. Fowls basking in the sun usu-

ally are contented and happy, but fowls cannot stand too much sun in hot weather. There must be partial shade in summer.

A poultry house is not complete without a yard. Nine times out of ten the yard is too small, partly because large yards are not appreciated and partly because poultry fencing is expensive.

In these plans we are showing the different kinds of houses so that individual farmers may select a plan that just suits their location and the way

Hen House with Brooder Room —Design A243

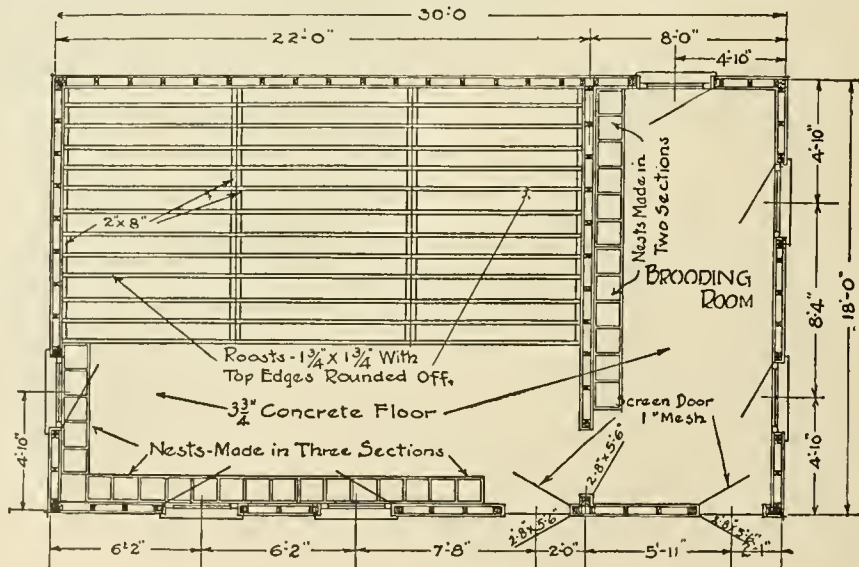
A mighty good hen house for farm conditions is illustrated in this plan. It has a concrete floor and removable nest boxes, roosts, etc. The nest boxes simply set on brackets and the roosts rest on ledges with supports 8 feet apart. The window openings are provided with sash, with hinges at the top, so they will open out at the bottom. Inside of the sash, the window openings are covered with thin 4-cent cotton to admit air and prevent drafts.

An interesting feature of this house



WISCONSIN EXPERIMENT STATION POULTRY HOUSE.

An elaborate, yet practical, combination egg-laying and brooding house, recommended by a poultry expert. General dimensions, 30 by 18 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$3.00 per set. When ordering, ask for Design No. A243 H.



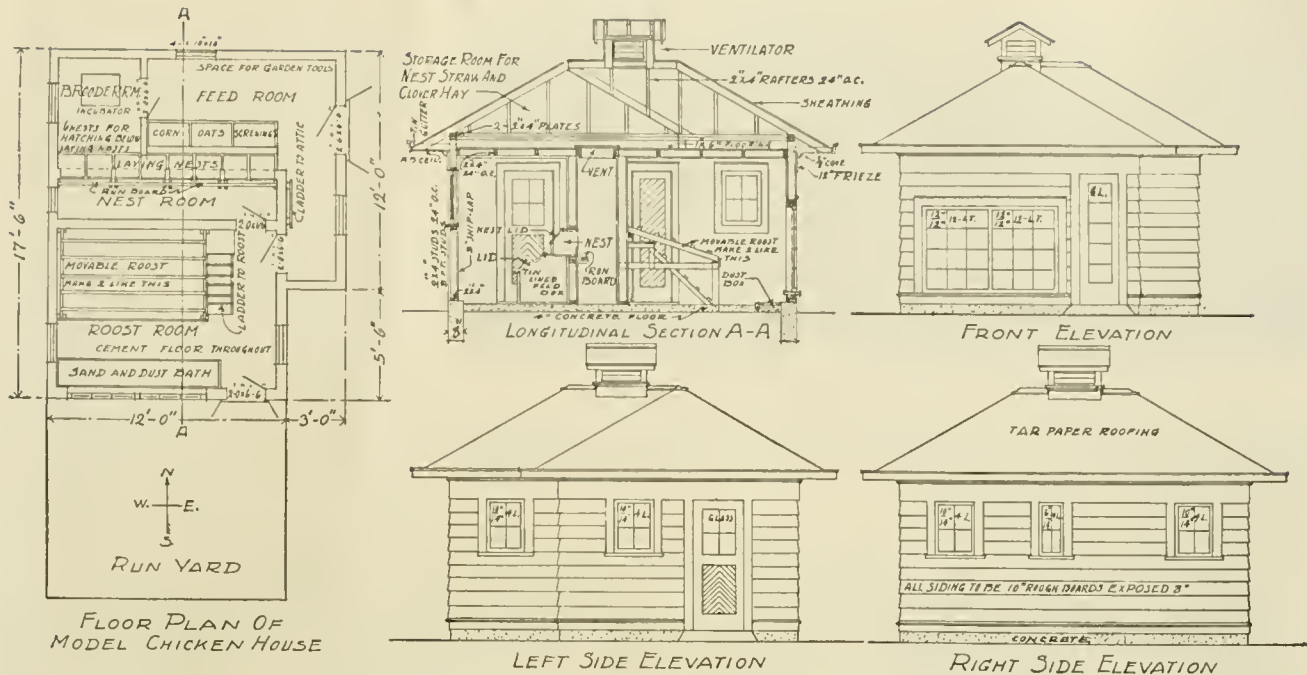
Floor Plan of Wisconsin Poultry House No. A243 H.

in which they prefer to conduct the poultry branch of their business.

Average Periods of Incubation

Chickens	20-22 days
Geese	28-34 days
Ducks	28 days
Turkeys	27-29 days
Canary Birds	14 days
Guinea fowls	28 days
Pheasants	25 days
Ostriches	40-42 days
Pigeons	18 days

is the brooding room. At brooding time loose boxes are set on the cement floor for the use of sitting hens. During the brooding season the door is shut between this room and the roosting room, so the brooding hens will not be disturbed by the laying hens. It is a good arrangement on a farm where a good many hens are kept and where an incubator is not desired. Some poultrymen, as well as women, have better success with hens when they can control them in this way. They visit the hens several times a day and encourage each one to keep close to her own nest. A little supervision at this time is necessary for real success.



WORKING PLANS OF ORNAMENTAL POULTRY HOUSE

A poultry establishment carefully planned for village or suburban use, 15 by 17 ft. 6 in. in size. Design No. A278 H.

Two Ornamental Chicken Houses

From the standpoint of the hen it makes very little difference how the poultry house looks so long as it is dry and warm and large enough. However, to put a measly looking hen coop or shed in the backyard of a nicely designed residence seems penny-wise economy.

When having a poultry house put up it doesn't cost much more to consider looks a little, and have it built with more of an architectural appearance than the ordinary amateur egg factory usually boasts of. All of the principles of scientific poultry house construction that years of experience have proven should and can be incorporated; and they should then be worked together into an attractive looking little building.

The two designs presented herewith, Design A278H and A279H, have been carefully worked out with this idea. The larger will accommodate a flock of from twenty to thirty hens, the smaller about half that number. A hip roof is used on each, surmounted by a ventilation cupola. This helps the appearance and, as ventilation is such an important thing in successful chicken raising, the expense is doubly justified.

A study of the working plans, which are detailed very completely, will show the features of these two little home hen houses.

Locate the poultry house on dry, well drained ground. A damp location means a damp poultry house, and the result is that the fowls are affected with many troublesome diseases.

Always face the house toward the south so as to get the sun's rays throughout the day in the winter to keep it bright inside. Let it be sheltered from the wind. Where it is necessary to build in a windy place, trees or small shrubs can be planted to shelter the house during the fall and spring when the winds are violent.

A poultry house usually needs more ventilation than is given. Fresh air is far more important than warmth. Fresh air means health, but it should

half of the spaces should be glazed and the other half left open, and cloth screens supplied.

The poultry house floor is important. In many localities a sand or dirt floor is cheaper and is advisable. Hens like a dirt floor if it is dry. It makes a natural dust wallow, but must be replaced frequently in order to keep the house sanitary. A dirt floor must always be well above the outside grass so that water will not run in.

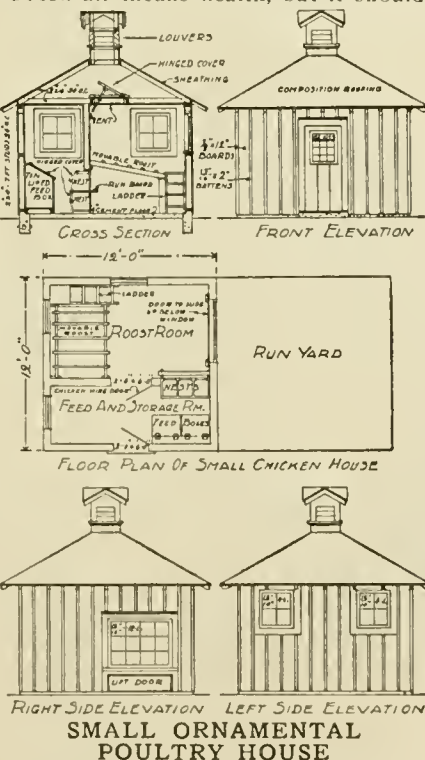
A cement floor is much easier to keep clean, is durable and rat proof. Never leave a cement floor bare, but keep it covered with three inches of sand, and in the winter time, with from six to ten inches of straw.

The number of fowls to be kept will determine the size house to build. As a rule, however, fowls are too crowded to do well. Better allow too much floor space than too little. From five to ten square feet of floor space per hen is usually figured on.

The interior arrangement should be planned to make it easy to clean the house and care for the fowls. The perches should be in the warmest part of the pen as the chickens need more protection from the cold during the night, when they are inactive. The perches should be easily removable to make it easy to take them out to clean them. As a general rule, small hens should have about six inches of perch space apiece, while larger hens should be allowed eight inches. Perches should be twelve inches apart and not closer than fifteen inches to the wall or ceiling.

The poultry house should be well supplied with nests which are easily accessible. In both of these designs the nests are in the partition between feed room and nest room, so that the eggs can be gathered without going in where the hens are, or disturbing them.

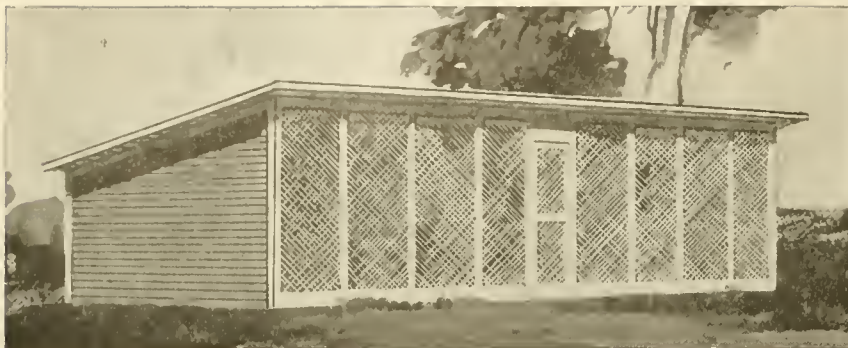
Do not drive a screw into a board with a hammer, as its holding qualities will be greatly lessened.



SMALL ORNAMENTAL POULTRY HOUSE

Carefully arranged working plans for chicken house suitable for village or suburban back yard. Design No. A279 H.

never be supplied by a draft. The best system of ventilation for the ordinary poultry house is a cloth covered window, which allows the air to pass through slowly. Only in coldest weather, however, is the cloth pulled across the window. For the rest of the time it is left wide open. Where a house has its south side made up largely of a window group only about



DOUBLE HEN HOUSE AND SCRATCHING SHED

An interesting poultry house design. Front composed entirely of wire netting. Outside dimensions, 34 by 12 feet. Inner building, or hen house proper, measures 15 by 8 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A151 H.

Small Double Poultry House —Design A151H

Here is a poultry house with an open scratching shed. The house is 34 feet long by 12 wide. Poultrymen differ about the width of a house constructed in this manner. Some prefer 12 feet because it is easier to get the sunlight clear to the back, as these houses should always front the south. On the other hand, men with considerable experience prefer houses 16 or even 20 feet in width, because they can house more fowls for practically the same amount of money.

There are many ways of building an open scratching shed and poultry house, but this plan seems to contain about everything that is necessary. The door opening into the henhouse is just a frame covered with cotton, which admits both light and air to the roosts and nest boxes. The outside wire netting may be covered with cotton, or not, according to the climate and the ideas of the owner.

The roofing is roll roofing and it starts at the highest point in front, turns over the corner at the back and goes clear down to the ground. This makes a thoroughly wind-proof and damp-roof house.

It is a peculiar thing about dampness in poultry houses. It is a comparatively simple question that has bothered poultrymen more than anything else. Why a poultry house should gather dampness and have white frost on the inside when all the stables on the farm are comparatively dry has bothered a great many poultry raisers. It is easier to build a satisfactory stable for any other domestic animal than it is for chickens, unless we are satisfied with what is commonly termed a curtain-front house.

The phrase curtain-front simply means that some of the openings are covered with thin cotton instead of glass. It seems to have solved the problem of how to make a chicken house light, airy and dry, but not all curtain-front houses work alike. A great deal depends on the head room. A few hens have not body warmth enough to heat

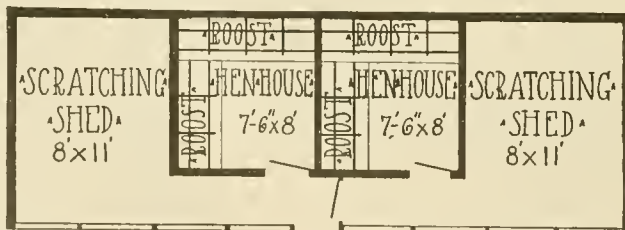
a great deal of space. You cannot have good ventilation without heat. The solution seems to be to build a comparatively small house with a low roof. Some poultrymen build their curtain-front houses as low as 2 feet at the back and only about 6 feet high in the front.

But this makes a back-aching job in taking care of the fowls unless the attendant is built on the "shorty" plan. Hens require little head room. Most poultry houses are built to accommodate the attendant to the detriment of the hens.

Double Brooder and Chicken House—Design A202H

This design shows an economical brooder house. The house accommodates 130 or 140 chicks, taking them from the incubator and housing them until they go into the regular poultry quarters.

The compartments in this house are about ten feet long, seven feet wide, six feet high in front and four feet high at the back, which allows standing room for a short man in the front part of the house. It makes a house large enough for poultry to work in during bad weather, when the birds must be kept indoors, and there is room for the attendant to move about when caring for the brood.



The house is placed on shoes two by six inches, placed flatways and rounded like sled runners. These runners are ten feet long, which extends them a foot outside beyond each end of the building. An auger hole is bored through each end of each runner, so a chain may be attached for pulling the house to another place.

The floor is made of two thicknesses of $\frac{7}{8}$ -inch stuff, dressed one side, with roofing felt between, breaking joints to prevent breaking the felting. The walls and roof are covered with roofing felt. There is a window each side of the door, hinged at the top; and there

is a wire screen on the inside of each window, also hinged at the top to swing in and fasten up against the wall with a button. Windows hinged in this way are liked by poultrymen generally better than sliding windows, for two reasons—they can be made longer, and when partly open will admit the fresh air and keep out the rain and snow.

There are low temporary partitions inside to divide the building into two parts, and a brooder is placed in each compartment. The brooders are blocked up from the floor slightly and set a little away from the sides of the building, which is necessary to secure warmth and sufficient circulation. Inclines are used to make easy access to the brooders for the small chicks, but the inclines may be dispensed with later, as the chickens grow. In the warm season the windows are turned to the north and in cold weather to the south. By keeping the runners blocked up from the ground, a house built like this lasts a long time.



OPEN-FRONT POULTRY HOUSE

A shed roof building containing two units, separated by small feed-room. The front of the house is mostly window down space—the upper part glazed, the lower part covered only with cheese cloth. Dimensions, 20 by 8 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A202 H.

Open-Front Poultry House— Design A242H

In this design there is illustrated a poultry house 36 feet long, divided into two compartments. A house this length, 12 feet wide, gives room enough for two select pens of layers.

It is generally understood when a man takes the trouble to build a chicken house as large as this that he is planning to keep pure breed poultry. There is a satisfaction about pure bred fowls that only those who have studied them can understand. To some farmers one hen is as valuable as another, because they have never given much attention to breeding. They agree that "pigs is pigs."

In handling poultry in a house like this, one compartment should be used for the breeding stock. When feeding the chickens in the fall and early winter, it is easy to pick out the best hens and pullets for breeding purposes.

A pen of fifteen or twenty selected hens will lay eggs for the foundation

of a very valuable lot of poultry. It is worth a great deal of time and study just for the looks of having chickens that are all alike.

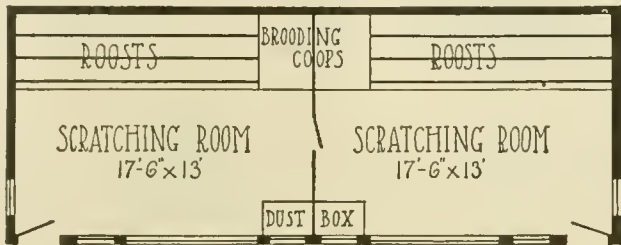
It pays to get a good cock bird from a man who makes a business of breeding the very best. A good poultry man will not sell his best cock birds for less than \$5.00 or \$10.00. If the man understands and is honest, there is no doubt that the stock is worth it. At the same time, a cockerel from the same pen may be had for \$2.00 to \$5.00. One cockerel may be just as valuable as the other, but the buyer takes chances on prepotency because he has not been tried out.

A poultry house like this adds enough dignity to the poultry end of the stock business to secure the necessary attention to improve the breeds from year to year. It often happens that one of the girls or one of the boys on the farm



DOUBLE OPEN-FRONT POULTRY HOUSE.

A satisfactory design, well lighted and ventilated; approved by successful poultry raisers. Size on the ground, 36 by 14 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A242 H.



Floor Plan of Poultry House No. A242 H.



TWO-COLONY POULTRY HOUSE

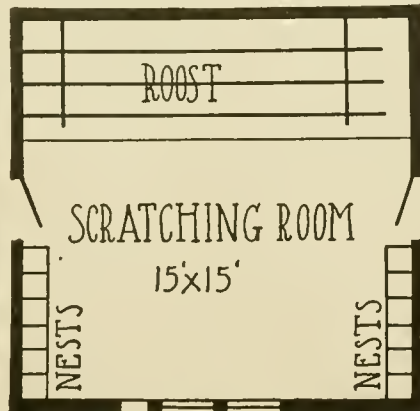
A sensible poultry house that makes a good appearance. Each room has one window glazed and one window covered with cheese cloth for ventilation. Dimensions, 16 by 30 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A240 H.

will take a special interest in building up a strain of poultry that will win prizes at the poultry shows.

Small Poultry House—Design A241H

A little poultry house 16 feet square is shown in this illustration. Some farmers do not care to keep poultry except enough to supply the family. The hens hatch a lot of chickens in the spring and they run around the lanes and fields all summer and finally find their

here, but they have to be trained in the fall. Laying hens have some sense which may be directed in the way of decency by commencing with them in the right way. It does not pay to keep the same hens more than two years, so half of the flock should be spring pullets. They are the pick of all the chickens. They are worth a little work in the fall to educate them to go to



SMALL POULTRY HOUSE

Roosting and nesting house for small flock. Size, 16 by 16 feet. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$2.00 per set. When ordering, ask for Design No. A241 H.

way into the kitchen in the fall to feed the farmer and his family.

This is a very profitable way of raising poultry because the birds feed themselves. The first essential is a good warm house for the breeding stock during the winter, and the second requisite is to have breeding stock that is worth keeping.

A little house like this will furnish warm, comfortable winter quarters for twenty or thirty hens. If the place is kept clean they will prefer to roost

roost properly at night instead of musing the seat of the family carriage.

Because the poultry house is small, it should not be neglected. Hens will not roost in a chicken house that is lousy. When they refuse to go in the house, it is a pretty good sign that something is wrong.

Plain Farm Hen Roost—Design A240H

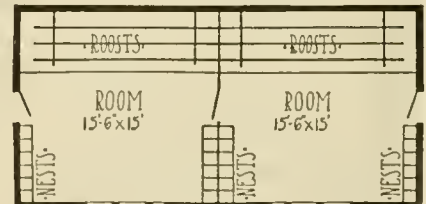
A simple hen house for farm use is illustrated in this design. This little house is built in two compartments, divided by a board partition. The size of the house is 16x30, which gives two rooms each about 15 feet square.

In practice, it is found better not to have too many laying hens together in one room. Poultry men differ about

the number, but the limit seems to be in the neighborhood of 40. Some poultry men draw the line at 25.

It is difficult to furnish dust baths and clean water sufficient for winter use when the poultry house is crowded. At the same time, there should be enough poultry together to warm the atmosphere. There is not much heat in their little bodies, but when 30 or 40 are housed together in a small, well-built compartment like one of these, the drinking water will seldom freeze.

In this little poultry house all the furniture is supposed to be removable,



Design No. A240 H.

so the house may be easily cleaned. The roosts, nests, dust boxes and other trappings may be carried out in the open. The cleaning of the house is very much less, and the job is likely to be much better done. A little attention to these matters makes the difference between having eggs in the winter time and going without eggs.

The manner of making the roof gives head room where it is needed, with the low part on the dark north side,



SMALL GENERAL BARN

A simple low-cost design to stable 7 cows and a team of horses and to give considerable feed storage space. Dimensions 28 feet square. We can furnish complete set of blue-printed working plans and typewritten specifications for only \$5.00 per set. When ordering, ask for Design No. A270 H.

Twenty - Eight - Foot Barn — Design A270 H

A barn 28 feet square is not very large and it is not very expensive, but such barns are needed on small farms, and it often happens that they come in mighty handy on some of the larger farms.

The design of this little barn is about as simple and inexpensive as it is possible to make it and have it look right when finished. A straight roof costs less than a curb roof for the same size building, because it is all straight work. Rafters all go up at the same time, are fastened in place and the roofing follows quickly. It is the jobs with the odd corners and angles in the building that take up

to a nautical cleat, sailor fashion. This rope is the only fastener to hold the door shut, and it is the only fastener necessary because it is a good one when rightly put on.

At haying time, the door is swung down from the top and it hangs down until the hay is put in and until the hay has passed through the sweating process. This is one reason for large hay doors. A mow needs air for some weeks after haying, if there is much new hay packed away in one mow. While this little barn is modest in appearance, there is room enough to hold considerable hay.

There are no divisions between the horse stalls in this little stable. If the horses are not well enough acquainted to stand together, they can have poles put in between them. Horses do not care to fight across a pole.

The stable is built with mangers, stalls, feeder alley and manure gutter, all in the usual way, but the ventilation of the cow stable depends upon the manner in which the windows are constructed.

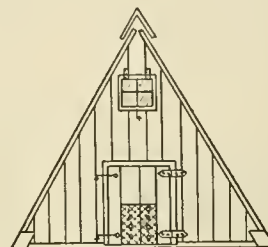
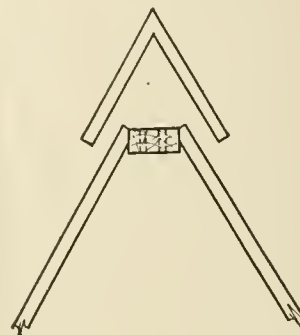
The windows are arranged to open in at the top so that air from the outside will follow up to the stable ceiling. This is a good plan, as it admits fresh air without striking the animals directly. The ventilator flue in the center comes down through the ceiling over the stalls so the foul air is drawn off in that way. Although the building is small, and inexpensive, the same attention to sanitation is carried out that larger and more expensive plans call for.

A Ventilated Hog Cot

A portable, "A" shaped hog cot with ventilator in the peak is shown in this drawing. In most hog cots, ventilation is neglected, or if it is attempted, the little house is made drafty. Ventilation makes the difference between a dry cot and a damp one. It is more difficult to ventilate a small house than a large one. The

easiest way is to use a 2 by 4 at the peak, turning the flat side down. Bore this full of holes before nailing the siding to it. Cover this with one thickness of thin cotton cloth, tacked on to make it stay in place, then cover this with an inverted "V" shaped trough, as shown in the detail drawing.

This arrangement will let the air



Ventilated Hog Cot

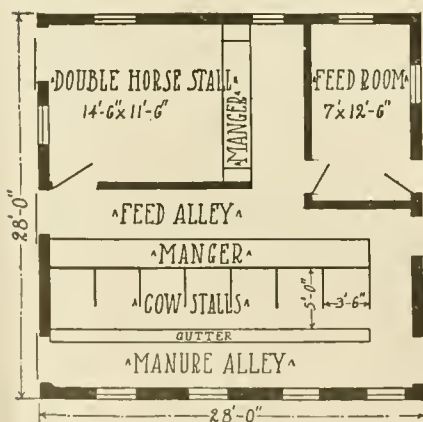
out at the top. Bore plenty of holes; and if it is found, by practice, that too much warm air escapes, cover the holes by sliding in a lath over some of the openings. Air may be admitted near the bottom in front, by boring holes and covering these holes with cloth in the same way. The object of the thin cotton cloth is to prevent a draft. The air will find its way through the meshes of the cotton, and there will be no noticeable draft.

Every wooden floor in the hog house should be double and laid to break joints. Otherwise, dampness will swell the boards, and then, when they become dry, they shrink enough to make an opening. Cold air blowing through a crack makes trouble.

Rods of Fencing Required

Most of the land in the United States has been surveyed into townships containing thirty-six sections. The sections are each one mile square, with a road all the way around; half the width of the road comes off from the measured section, the other half from the adjoining land.

Sections contain 640 acres and are divided into sixteen 40-acre farms, so that each farm has a road on one side and the corner farms have roads on two sides. It requires a little less than four miles of fencing to fence a section. It takes one-fourth mile, or 320 rods of fence to enclose it. Less fencing is required to enclose a square acreage than a lot that is rectangular.



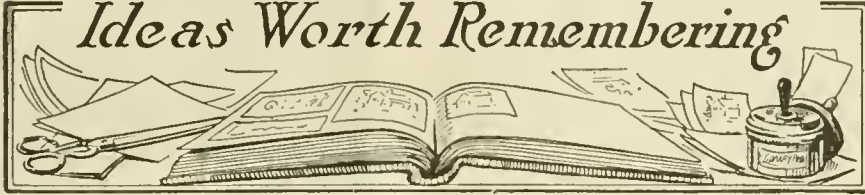
Floor Plan of A207 H.

the time and cost money. They may be worth all they cost; but sometimes the actual dollar expense is a serious handicap when a farmer is building his barn.

There is a hay door in this little barn that will appeal to some farmers who have had trouble with hay doors. This one hinges at the bottom and is held shut at the top with a rope that works over a pulley. The rope hangs down inside and is looped

The Home Builders' Scrapbook

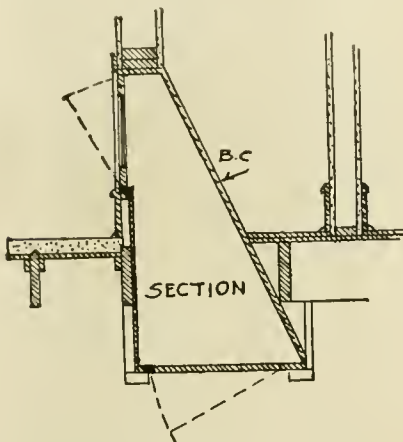
Ideas Worth Remembering



Clothes Chute for Cottage

A convenience which every housewife will relish and which neither takes up much space nor costs very much, is illustrated in the accompanying drawing.

This clothes chute opens out of a bath room through a small square door, hinged at the bottom. The box is big enough to hold the week's accumula-



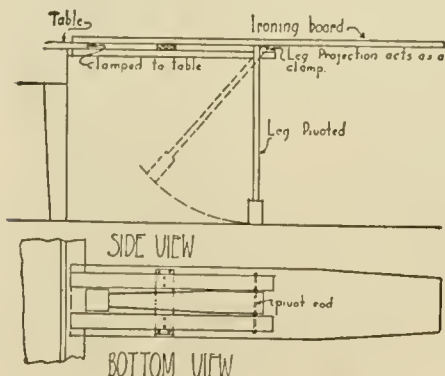
Handy clothes chute box.

tion. The bottom of the box is a hinged door.

In one house where this was used, a shallow wardrobe just back of the clothes chute box, permitted the required space at the base board to be stolen away without being noticeable. As the bath room was right over the laundry, the chute was very convenient.

An Improved Ironing Board

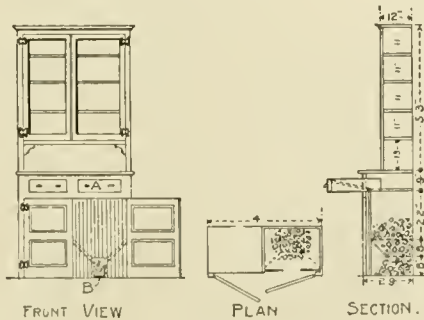
Here is a better way to make an ironing board with folding leg than one often sees. There is only one cross-piece, which acts as a fulcrum so that when



the pivoted leg of the board is lowered (the projection of the leg being slightly more than the distance between the pivot and the board), the board and the base piece grip the table top firmly. It forms a kind of vise to pinch onto the table edge. This makes the board firm and strong.

Convenient Coal Bin for Kitchen Range

The sketch shows what appears to be a kitchen cupboard; but one-half of the lower part is used for a coal bin. It holds 15 hods of coal and is filled from the drawer "A" which has a slanting bottom. The coal is taken



Kitchen cabinet with coal bin.

out from the hole at "B." This is a very clean arrangement and a space saver, especially in a kitchen where the room is limited.

Concrete Cellar Steps and Hatchway

A DAMP cellar under a dwelling is frequently the unsuspected cause of many a case of sickness. Often this dampness is the fault of a poorly built entrance-way. If water gains access by means of leaky hatchway walls, the cellar becomes unsanitary and the health of the entire family is endangered. This peril can be dispelled by making the walls and steps of concrete.

The methods of building hatchways for either new or old cellars are very similar. As forms choose two 1 by 12-inch boards and notch them as though they were to be used as "horses" to support wooden steps of the same dimensions as those of concrete. Place the notched edges down with the ends fixed at the top and bottom of the

stairs. To mold the rise of concrete steps, use 1 by 6-inch boards 3 feet 10 inches long, which are secured to the forms by means of nails and wooden cleats.

With the forms firmly fixed in position, fill the mold for the bottom step, and the space back of it, with concrete proportioned 1 bag of Portland cement to 2 cubic feet of sand to 4 cubic feet of crushed rock. Bring the concrete in each step to the top of the riser and finish the surface with merely a wooden float. Continue the work upward until all the steps are finished. At the top of the stairs tie the apron foundation to the side walls by means of old iron rods imbedded in the concrete and extending around the corners. This will

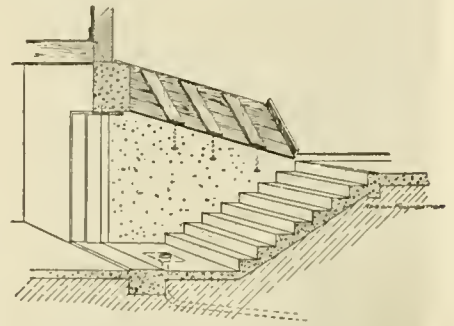


Diagram of concrete cellar steps and hatchway, an improvement which should be made in many old homes and always included when new residences are built.

prevent possible heaving and cracking by frost.

The eight cellar steps of the hatchway shown in the plan have a tread of nine inches, a rise of six inches and a length of four feet. The clear height of the door-way in the cellar wall is six feet six inches. The landing at the foot of the steps is three by four feet and has a four-inch concrete floor. This same thickness of concrete lies under the steps proper. The side walls were built as described above. For this improvement there were required the following quantities of materials.

BILL OF MATERIALS

Crushed Rock	2½ cubic yards
Sand	1¼ cubic yards
Portland cement	12 bags

For improving old cellar hatchways it is frequently necessary to fill with earth and gravel so as to provide the earthen slope for the concrete steps. Such filling must be thoroughly tamped into place and should be water-soaked and allowed to settle before the steps are built.

Concrete steps, unlike other kinds, become stronger with age. They are perfectly safe under the heaviest of loads. Moreover, besides being water-tight, they keep out rats, mice and other obnoxious vermin.

Live and Dead Loads for Structures

Principles of Tension and Compression—Weights of Building Materials—Wind Velocity and Pressure Figures

One of the first and most important things to take into consideration in the study of building construction is the different kinds of loads a structure is liable to have. These may be divided into three classes: dead loads, live loads and the snow and wind loads.

Dead Loads on Structures

The weight of the structure itself is the dead load; for instance the weight of the roof forms a portion of the dead load on the walls and columns; the floors cause a dead load to come on the walls and columns; and then the total dead load of the structure is transferred through the walls and column footings to the supporting soil.

In order to figure this dead load we must know the average weight of the materials and the following table gives the weights of the most common building materials:

Weights of Building Materials

White pine, $2\frac{1}{2}$ pounds per square foot, 1 inch thick.
Hemlock, $2\frac{1}{2}$ pounds per square foot, 1 inch thick.

Spruce, $2\frac{1}{2}$ pounds per square foot, 1 inch thick.

Yellow pine, 4 pounds per square foot, 1 inch thick.

Oak, 4 pounds per square foot, 1 inch thick.

Structural steel, 0.29 pounds per cubic inch.

Cast iron, 0.26 pounds per cubic inch.
Wrought iron, 0.28 pounds per cubic inch.

Ordinary soil or earth, 100 pounds per cubic foot.

Brickwork in lime mortar, 120 pounds per cubic foot.

Brickwork in cement mortar, 130 pounds per cubic foot.

Stone concrete, 130 to 140 pounds per cubic foot. Best to use 140 pounds.

Compact cinder concrete, about 100 pounds per cubic foot.

Light cinder concrete (such as is used in filling), 80 pounds per square foot.

Granite, 170 pounds per cubic foot

Marble or limestone, 160 pounds per cubic foot.

Sandstone, 140 pounds per cubic foot.

Ordinary lath and plaster, 6 pounds per square foot of surface.

To calculate the dead load of a proposed building it is necessary first to fix upon the general arrangement, disposition and approximate dimensions of all the parts and to estimate approximately their weights. After the calculations are made and the construction detailed, the actual dead loads should be checked to make sure that they agree closely with the assumed load. If considerable variation is found, it can be taken care of by increasing or diminishing the size already determined proportionally, as may seem necessary.

The weights of the various systems of fire-proof floors may vary from 60 to 125 pounds per square foot of floor, including the necessary steel and other items used in their construction, and the weight should be justified before finished calculations are made. Generally an assumed load of 80 pounds per square foot of floor will be sufficient for

the dead load. In buildings with movable partitions an allowance should be made for their weight in the dead load, if a small dead load is taken.

Live Loads

The live or accidental load for floors is a quantity for which there is no standard, as it consists of the weight of people, machinery, furniture, etc. The requirements of the building laws of Philadelphia, which are a very conservative standard to adopt, are as follows:

"Dwellings, tenant houses, apartment houses, hotels, hospitals and asylums, use a live load of 70 pounds per square foot.

"For office buildings use 100 pounds per square foot.

"For places of public assembly, light manufacturing buildings and retail stores use 120 pounds per square foot.

"For store houses, warehouses and heavy manufacturing buildings, use 150 pounds per square foot and upwards in proportion to the loads they may have to carry."

The following data is fairly conservative and may be properly used where there are no building laws to the contrary:

The load of 70 pounds per square foot for dwellings will probably never be realized, but inasmuch as a city dwelling house is liable to be taken and used for some other purpose at any time, it is not advisable to use a lighter load. In the case of a country or seashore house or hotel, or a building of like character, where economy demands it and where the actual use of the building for a long time is certain, a live load of 40 pounds per square foot of floor is ample for practical purposes, for rooms not used for public assembly. For rooms of public assembly a live load of 80 pounds per square foot is sufficient. If the desks or chairs in a room of this character are fixed, as in a school room, church, etc., a load of more than 40 to 50 pounds per square foot of floor will never be realized, but it is not general practice to consider this, although there are sometimes special cases where economy demands it. Office building floors have been designed for live loads ranging from 20 pounds to 150 pounds per square foot of floor. Retail stores should have floors proportioned for live loads of 100 pounds per square foot and upwards. The floors of wholesale stores, warehouses, machine shops and the like should be designed for live loads of 150 pounds per square foot and upwards. The static loads in textile factories will seldom exceed 40 pounds per square foot. In most cases a live load of 100 pounds per square foot, including the effect of moving machinery should be ample. In general, a conservative rule would be not to assume loads less than the above, but in all cases to be sure that in the actual use of the building, so far as can be foreseen, the loads do not exceed the above.

Furthermore be sure that the loads used, together with the sections used, do not give excessive deflection or vibration. In a building, stiffness or freedom from vibration is a factor almost as

important as mere strength. It is also well to bear in mind that the deflection due to the dead load is permanent and that the only variable deflection is that due to the live load, and that this variable deflection is the cause of plaster cracks and the like.

The practice in the case of plastered work where a considerable deflection is harmful, is to proportion the beams or girders so that their total deflection will not exceed $\frac{1}{30}$ of an inch per foot of span. If the span is not more than 20 times the depth of the beam, the deflection will be within the above limit.

Wind Loads

The wind load on a roof depends upon the pitch or slope of the roof and is usually assumed to be 40 pounds per square foot, horizontal wind pressure; that is the wind is considered as blowing at this pressure in a horizontal direction; but the resulting pressure upon the roof is always taken normal (at right angles) to the slope.

The wind pressure against a vertical plane depends on the velocity of the wind, and, as ascertained by the U. S. Signal Service at Mt. Washington, N. H., is as follows:

WIND PRESSURE.

Velocity (Miles per hour)	Pressure (Lbs. per sq.ft.)	
10.....	0.4.....	Fresh breeze.
20.....	1.6.....	Stiff breeze.
30.....	3.6.....	Strong Wind.
40.....	6.4.....	High wind.
50.....	10.0.....	Storm.
60.....	14.4.....	Violent storm.
80.....	25.6.....	Hurricane.
100.....	40.0.....	Violent hurricane.

The wind pressure upon a cylindrical surface is one-half that upon a flat surface of the same height and width.

On the assumption of 40 pounds per square foot horizontal wind pressure, use the following for the various slopes, pressure at right angles or normal to the slope of the roof.

WIND PRESSURE FOR VARIOUS SLOPES.

Rise 4 in. per foot, use 17 lbs. per sq. ft.
Rise 6 in. per foot, use 24 lbs. per sq. ft.
Rise 8 in. per foot, use 29 lbs. per sq. ft.
Rise 10 in. per foot, use 33 lbs. per sq. ft.
Rise 12 in. per foot, use 36 lbs. per sq. ft. (45 degree angle.)

Rise over 12 inches per foot, use 40 pounds per square foot.

In regard to the wind pressure against the sides of a building, use not less than 25 pounds per square foot for the tenth story, $2\frac{1}{2}$ pounds per square foot less on each preceding lower story and $2\frac{1}{2}$ pounds per square foot more for each succeeding upper story to a maximum of 35 pounds at the 14th story and above.

Snow Loads

The snow load on a roof is generally taken at about 12 pounds per square foot of roof (horizontal area covered) when the slope of the roof is under 12 inches rise per foot of horizontal run, but when the slope is over 12 inches rise per foot, a load of 8 pounds per square foot is considered ample. By "Horizontal area covered" we mean the

span of the truss multiplied by the distance apart of the trusses.

Tension and Compression

When the forces which act upon a body are exerted in directions away from each other, tending to elongate or stretch the body, this character of the stress is called tensile strength or tension. It is also evident that the forces in the body which resist tension must act inward or towards each other, as indicated by the arrow-heads upon the line denoting tension in Fig. 1a.

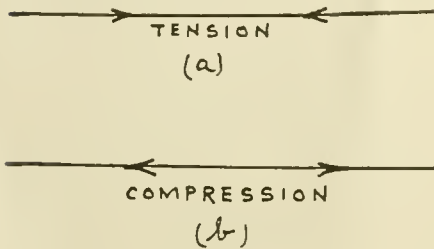


FIG. I.

When the direction of the forces which act upon a body act toward each other, their combined action tends to shorten or compress the body; this character of stress is called a compressive stress, or compression. It is evident that the forces of the body which resist compression must act outwards or away from each other, as indicated by the arrow-heads upon the line which denotes compression in Fig. 1b.

The ultimate strength of any material is that unit stress which is just sufficient to break it.

ULTIMATE TENSILE STRENGTH OF MATERIALS.

White Pine, 6,000 pounds per square inch of cross section.

Hemlock, 4,000 pounds per square inch of cross section.

Spruce, 6,000 pounds per square inch of cross section.

Yellow Pine, 8,000 pounds per square inch of cross section.

Oak, 10,000 pounds per square inch of cross section.

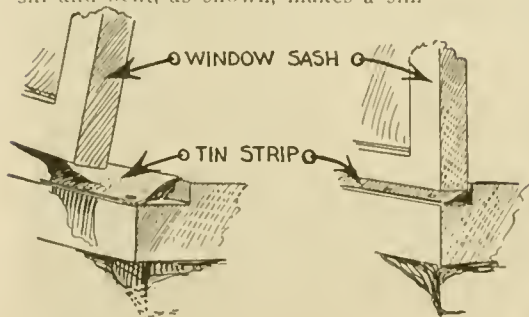
Wrought Iron, 52,000 pounds per square inch of cross section. (Rods or bars of unusual size.)

Rolled structural steel, 64,000 pounds per square inch of cross section.

Cast iron, 18,000 pounds per square inch of cross section.

How to Make Hinged Windows Weather Tight

A piece of tin tacked to the window sill and bent, as shown, makes a simple yet effective weather-tight joint.



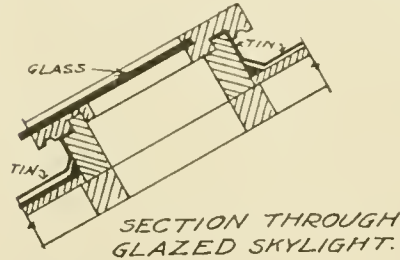
Swinging Sash Made Tight with Tin Strips.

These strips can be continued up the two sides also, making a window, hinged at the top, tight and snug all

the way around. There is just enough spring to the tin so that the sash will wedge in firmly when closed.

Rain-Proof Trapdoor Skylight

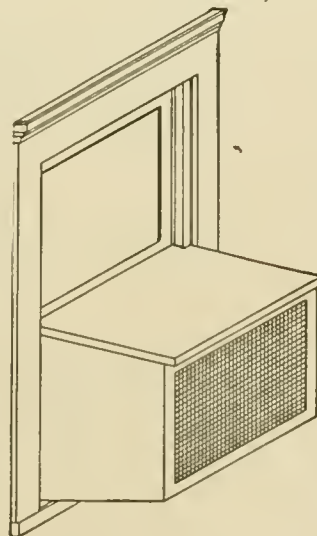
The accompanying diagram shows an approved weather-proof arrangement for a small glazed trap-door skylight that should suit the purpose. The flashing metal is brought well up onto the timbers framing the open-



ing, on all four sides. The plan view shows the glass put in in three lights, which makes the window less likely to be broken. A rabbetted joint connects the sash to the frame all the way around. Four-inch wrought iron broad butts hinge the door at the upper edge. An ordinary hook and eye fastener will secure the trap-door from the inside.

Ventilated Window Food Box—Window Refrigerator

This is a sketch of a window refrigerator made of $\frac{7}{8}$ by 12-inch material. For window with glass 24 by 30 inches, make a box 28 by 34½ inches, putting in two shelves of same material; then



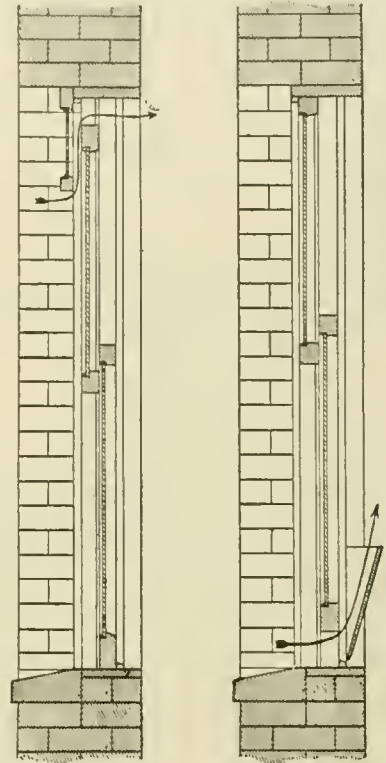
Ventilated Window Food Box.

cover the outside with hardware cloth. This slides in between the outside casing, rests on the subsill and comes up under the meeting rails. Use four 1½-

inch screws to fasten same to casing and it is a good plan to nail a strip the thickness of the bind stop on the inside of the top, so as to close up the space between the frame and the meeting rail; this enables one to use the bottom sash to close it from the heat.

Window Ventilators

It often happens that direct ventilation by means of an open window is objectionable because of draught playing upon those sitting near by. To



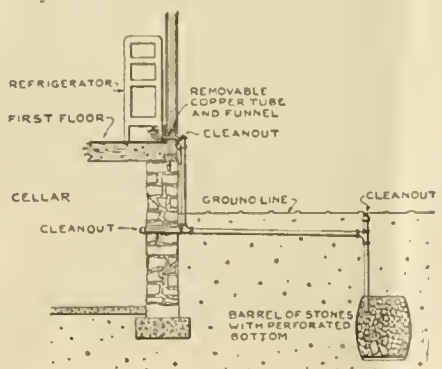
Outside Wind Deflector Upper Sash of Window

Inside Wind Deflector Lower Sash of Window

overcome this difficulty two forms of deflectors are proposed, as illustrated herewith. One of them is applied to the outside of the upper sash of a window, the other to the inside of the lower sash. The arrow indicates the direction of the entering air in each case. Deflectors of this kind may be made of glass, wood or metal.

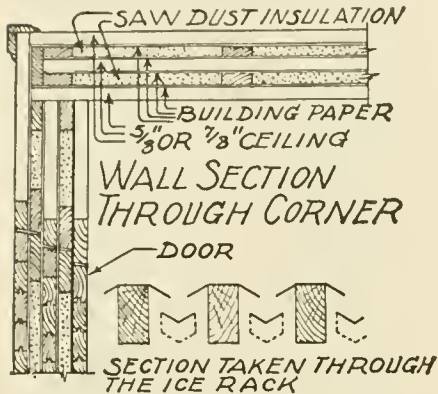
Arrangement of Ice Box Drain Without Sewer.

The sketch shows how the drip may be drained away automatically during the whole ice season. At the same time, a clean-out is provided in case any trouble should occur.



How to Build a Store Ice Room

The details herewith shows the section of wall and door, commonly used in refrigerators of this type. It also shows a method of constructing an ice rack which is used overhead in this type of refrigerator. The small dots between sheathed walls indicated dry



Details of Ice Room Construction.

sawdust, which is placed in the space as a method of insulation.

The method of construction shown is as follows: Two or more perfectly air-tight walls, with dead air chambers between them filled with sawdust, make a good type of wall. Three air-tight walls with $\frac{3}{8}$ -inch space between them would probably serve your purpose better.

A cheap way to obtain this would be to build the outer wall and cover with good two-ply red rosin sized building paper. This should then have a coat of linseed oil to make it air-tight and durable; then strip this with $\frac{7}{8}$ -inch strips, ceil again, and cover with paper as before, being sure that all joints are stripped down and air-tight. Next cover the strips with paper as before (this may be oiled and dried before applying), and finish with the inner wall or ceiling, which can be best coated with shellac. To make a job which will economize ice, this should be the construction of floor and ceiling as well.

Now, as to the ice shelf. All that is necessary is to form a rack, which will support the ice wanted, and at the same time give free passage of the air down and around it, and at the same time carry the water off perfectly. This may be secured by taking 2 by 4-inch, arranged side by side on edge, 4 inches apart. Cover them with galvanized iron, so that it will project $1\frac{1}{2}$ inches on each side of the 2 by 4's, and bend down at an angle of about 30 degrees; then place a series of troughs between the 2 by 4's to carry off the water into another trough at the ends of these; and connect with a drain-pipe, which should be trapped so that the air cannot pass back through it into the cooling room. It goes without saying that the ice rack should be at the top of the room, as the cold air descends, keeping up circulation. The doors should be constructed with air-chambers, same as the walls.

How to Loosen Tight Bolts

All engineers, machinists and others who have anything to do with bolts and nuts, if in any way experienced make use of a little graphite and oil or of graphite and grease when putting nuts and bolts together. The use of graphite, even dry graphite, on the thread of bolts, will positively prevent the nuts from becoming rusted on the bolts.

When graphite is not used and it is necessary to loosen rusted nuts, it is a good practice to treat the parts liberally with kerosene and wait fifteen or twenty minutes for the oil to find its way around the threads.

If after this treatment the wrench fails to start the nut, try the effects of heat. This may be done by means of a blow-torch, which will cause the metal to expand and the break the rust which holds the threaded member in place.

The flame of the torch should be applied directly to the nut so that it may expand more than the bolt, thereby permitting it to be removed without danger.

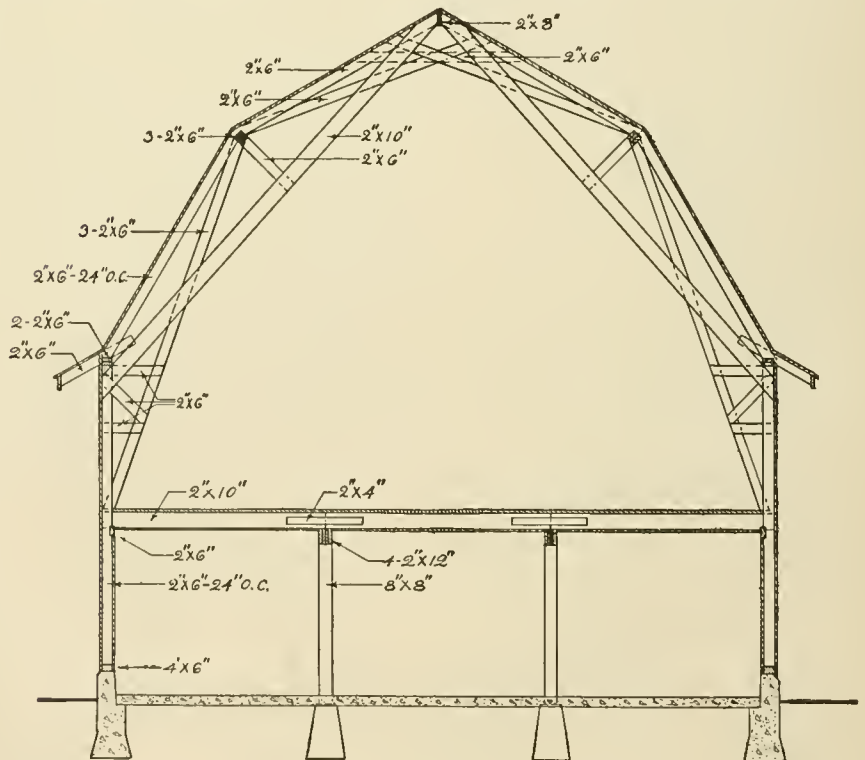
The nut may be still more expanded while it is warm by holding a hammer or other weighty object against one face and tapping the opposite side with another and lighter hammer.

If it is found impossible to loosen the

nut after this treatment, it must be cut away with a cold chisel.

How to Nail Without Splitting

Nailing is a very simple operation, but even in that there are a few tricks which come in handy once in a while. In driving brads or nails in small mouldings or wherever there is danger of their splitting the wood, and one is not prepared to drill for them, cut off the point of the nail with a side-cutting plier or by hammering it against the sharp edge of the back of the hatchet. This gives the nail a chisel point which, if driven so as to cut the grain, will prevent any splitting. To drive a nail where one cannot reach to start it, drive the nail through a stick or lath and very near the end; holding the stick in the left hand, one can place the nail and drive it wherever one can reach with the hammer. When the nail is solid, pull the stick away and drive the nail home. When toe-nailing thin stuff, if the point of the nail is bent slightly in the direction it is wanted to go it will not come out on the back side. Yellow laundry soap or beeswax are great helps in driving nails and screws in hard wood, and for driving the larger sizes of screws there is nothing to beat a screwdriver bit in a brace.



This design shows a well braced roof barn bent, showing a very strongly trussed hip roof construction. The purlin plates are well supported from the main posts at the second floor.

Each side of the roof is so braced as to form a very strong combination truss. Cross ties are placed at every point where cross bracing is required. Commencing at the second floor, this construction forms a series of connected trusses reaching to the peak and down to the floor on the other side of the building. Each truss is separate and distinct in itself, but each truss merges into the next one so that the whole cross section of the roof is tied together in the most substantial manner possible with the amount of material used.

The sizes of the different timbers are shown in figures on the diagram. These sizes have been carefully worked out and proportioned to secure great strength for a roof up to the ordinary width of farm barns, say 40 or 42 feet. Any building a barn wider than 42 feet will order a special design for the roof plan.

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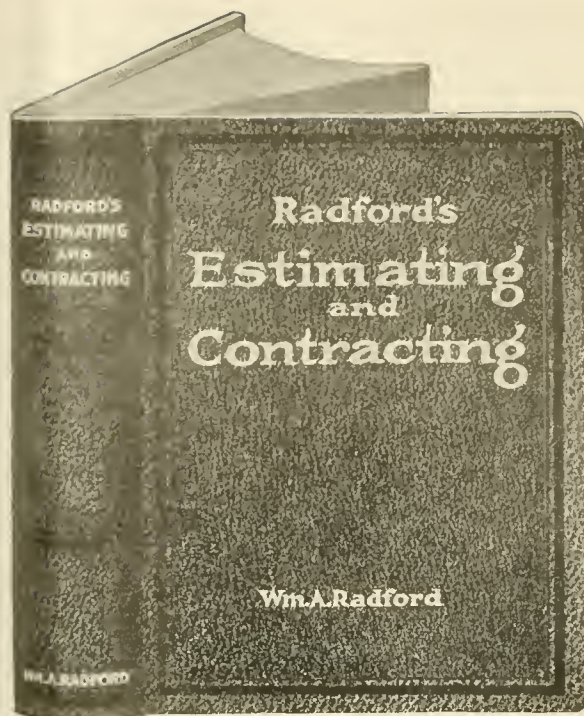
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- Estimating by the Square of 100 Sq. Ft.
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- Unit-Costs for Material.
- Labor Costs.
- Percentage for Profit.
- Margin for Variations and Contingencies.

PRELIMINARIES TO ESTIMATING

- Fees of Architects, Consulting Engineers and Designers.
- Examination of Site.

COST FACTORS CLASSIFIED

- Factors Common to Construction in General.
- Factors Involved in Special Types of Construction.
- Factors Incidental or Accessory to Various Constructions.

COSTS COMMON TO CONSTRUCTION IN GENERAL

- Leveling and Preparing Site.
- Employer's Liability Insurance.
- Water Supply During Construction.
- Number of Men and Teams Required.
- Rates of Wages.
- Cost of Superintendence.
- Earth and Rock Excavation.
- Foundations and Footings.
- Back Filling.

COSTS INVOLVED IN SPECIAL CONSTRUCTIONS

CARPENTRY WORK

- Measurements.
- Timber and Lumber (Grades and Sizes).
- Framing.
- Sills, Joists, Studding, Columns.
- Bracing.
- Furring and Lathing.
- Scaffolding.
- Floors.
- Stairs.
- Porches and Piazzas.
- Interior Finish and Trim.
- Building Paper.
- Clapboarding.
- Shingled Siding.

ROOF CONSTRUCTION

- Framing, see Carpentry.
- Wood Shingles.
- Metal Shingles.
- Asbestos Shingles.
- Cement Shingles.
- Asphalt Roofing.
- Roofing Felt.
- Prepared Roofing.
- Tile Roofs.
- Tin Roofs.
- Corrugated Metal Roofs.

- Slate Roofs.
- Pitch and Gravel Roofs.
- Galvanized Iron Roofs.
- Cost of Laying Different Kinds of Roofs.
- Painting Roofs, see Painting.
- Skylights, see Glazing.
- Ventilators.
- Cornices.
- Ridge Rolls.
- Gutters and Downspouts.
- Flashings.

MILL WORK

- Doors and Door-Frames.
- Sash and Window Frames.
- Blinds.
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- Mouldings.
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